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IN THIS ISSUE

Not As Simple As It Looked

This refrigerated locker storage plant business is—to reverse an old saying—just getting to the corner grocery stage. By that we mean it has passed beyond the point of throwing up an insulated building, putting lockers in it, and just having someone on hand to open up the place. New plants are invading the large cities with a food store tie-in, operators are devising new tricks to sell the service to patrons, all-in-all it's a pretty lively business. Read for yourself about it on pages 10 and 11.

1,938 Buyers Interviewed - - -

If you wanted to know some things for sure about the household refrigeration business—such as how much of a factor were trade-ins this year, was price really so important, and what was the main reason for customers purchasing a certain make—there is only one way you could obtain such information, by going out and interviewing each customer. Well, nobody's done that, but somebody has cross-examined 1,938 1940 buyers, and what they found out is reported on pages 4 and 5.

Helping the Wholesaler

Suppose you're a manufacturer who believes in the wholesaler as the proper agency to distribute your products—in fact, you decide to distribute through independent wholesalers only. What can you do to help that wholesaler? One manufacturer in the electrical field has made a name for itself by the way in which it has assisted its wholesalers, and the story of this company's plan is told on page 7.

Water Chilling To the Fore

Water chilling systems for use in industrial work and in air conditioning is one branch of the refrigeration industry that seems to have been under acceleration recently. The first instalment of an article dealing with this equipment and the market for it is to be found on page 12.

Shelf Goods

Manufacturers of refrigeration parts and supplies are going to packaged items more and more, and this poses a new problem in the jobber's display activities. Some suggestions for the display of packaged items are offered on page 14.

Wanamaker's Scores Again

Wanamaker's is a name famous in merchandising annals—so it's perhaps only natural that the store should make some kind of a mark in selling room coolers. Page 9.

Detroit ASRE Offers Trip For Best Paper

DETROIT—Members of the Detroit section of American Society of Refrigerating Engineers will compete for a free trip to the spring meeting of the national society, in a contest to decide the best paper offered by a member on any refrigeration subject. Details of the contest were announced to members at the October meeting of the section held at the Fort Shelby hotel here last week.

Officers for the coming year were inducted at the meeting. Louis S. Morse, Jr., Westerlin & Campbell, will serve as president of the section; Otto Klopsch, Wolverine Tube Co., vice president; John Wyllie, Jr., Temprite Products, treasurer; and R. C. Doremus, Detroit Ice Machine Co., will continue as secretary.

In outlining activities for the year, it was decided that the section would meet the second Tuesday of each month, with the exception of December. Plans for a membership drive were announced by Joe M. Ober, chairman of the membership committee. David L. Fiske, national secretary, addressed the group.

(Concluded on Page 3, Column 1)

Kinetic Chemicals' Classification of Its Customers Hailed as Forward Step

WILMINGTON, Del.—In its new set of regulations adopted this month governing the distribution of the "Freon-12" refrigerant, Kinetic Chemicals, Inc. has developed a classification of customers which some industry observers rate as the most far-reaching and significant step to be taken by a manufacturer of supplies for the refrigeration field.

Under its new distribution plan, a wholesale allowance is given to those firms in the industry who function properly as wholesalers of refrigeration supplies. The wholesale allowance is made on a functional basis, that is, on each individual sale.

Kinetic Chemicals has not set up a list of wholesalers and retailers arbitrarily classified. Classification was made through the medium of a questionnaire. By means of this questionnaire Kinetic Chemicals developed a list of wholesalers, and wholesaler-retailers.

Kinetic's definition of a sale at "wholesale," of a sale at "retail," and of an "ultimate consumer," respectively, governs all claims for the functional wholesale allowance which it grants. Such definitions are:

"A 'wholesale' sale is a sale made to a party who is regularly engaged in a business of reselling the refrigerant 'Freon-12' to all ultimate consumers who will patronize him. Resellers of 'Freon-12' include the dealers in electric refrigerators, dealers in commercial refrigerating equipment, dealers in air conditioning apparatus, dealers in refrigerated display cabinets, dealers in walk-in

coolers and commercial cabinets, independent service men, independent service companies, ice cream and dairy companies who contract to service ice cream cabinets, companies selling bottled water who contract to maintain a cooling apparatus, breweries or service men who contract to keep malted beverage dispensing apparatus in order, and plumbing, heating, and engineering contractors who install refrigerating equipment.

"A sale at 'retail' is a sale made to an ultimate consumer or to a buying agent or agency of an ultimate consumer. Ultimate consumers are too numerous for complete enumeration. They include stores, shops, office buildings, theaters, meat markets, groceries, fish dealers, cold storage locker plants, hotels, apartment houses, homes, cafes, restaurants, slaughter houses, cold storage houses, fur storage vaults, florists, saloons, chemical manufacturing plants, textile manufacturing plants, printing establishments, undertaking establishments, hospitals, public buildings, in fact, everybody who purchases the refrigerant for use in refrigerating machines which perform a service or variety of services needed in the conduct of the buyer's business. Chain stores, chain hotels, and chain restaurants are ultimate consumers, irrespective of the fact that they may purchase through a central buying agency and may have been listed as 'national users,' and given preferential treatment."

Particularly significant, it is felt, is the elimination of the so-called

(Concluded on Page 9, Column 1)

Morris Takes Control Of Potter Patents

NEW YORK CITY—Control of the "Potter patents" relative to the maintenance of two different sets of temperatures and humidities in household refrigerators has been taken over from T. Irving Potter of Buffalo by William T. Morris, president of the American Chain & Cable Co., Inc., and associates.

According to Frederick S. Duncan, attorney, these patents will be "used constructively," although as yet Mr. Morris has not yet made known his plans with regard to the patents.

1,938 Refrigerator Buyers Explain Why They Chose One Brand Over Others

Survey Shows Replacement Market Larger than It Seems

DETROIT—Trade-ins of electric refrigerators handled by dealers represent only about one-half of the actual number of sales involving replacement of an existing mechanical refrigerator, according to 1,938 replies to a survey covering 6,000 purchasers of 1940 and 1939 units in six U. S. cities, conducted by the

Detroit office of This Week magazine.

Replies to the survey reveal that while 456, or 23.7% of those reporting, owned a mechanical refrigerator at the time they purchased the new one, only 243, or slightly more than half, actually traded in the old machine on the new model. Instead, 93 persons sold the unit themselves, 53 gave it away, and 39 kept it for auxiliary use.

This would indicate that the actual replacement market cannot be gauged accurately solely on the basis of the number of units taken in trade by dealers; and that the day of the "two-refrigerator" family, like that of the two-car family, may not be as far off as many persons might have imagined.

Other quick facts brought out in the survey, which is reported in full on pages 4 and 5 of this issue, are:

Satisfied users are the best "salesmen" any dealer can have; more persons said this factor influenced their choice of refrigerator than any other one reason.

Convenience features are the second most important factor motivating the choice of one particular refrigerator over another; better mechanical construction was another important factor, apparently with men buyers, and exterior appearance also had considerable weight in helping buyers make up their minds.

Influence of price was relatively unimportant, despite the heavy emphasis on this factor by both manufacturers and dealers this year, but buyers did plenty of shopping around before settling on any one particular make.

Best market for replacement refrigerator business, as has been the case in "first sales," is in the moderate-income groups. About 65% of those reporting in the survey were in this general income level, and most of the replacement sales (according to a cross-sectional classification of occupations made in connection with the study) were made to persons in these income brackets.

(Concluded on Page 16, Column 1)

Stewart-Warner Puts Emphasis on All-Year Refrigerator Promotion

Locker Plant Men Meet Next Week

CHICAGO—Attracted by a program which promises much in the way of informative, worthwhile discussion, and by exhibits of refrigeration equipment, insulation, and all the other elements which go to make up a refrigerated locker storage plant, owners and operators of such plants from coast to coast will convene Oct. 28 through 30 at the Stevens hotel here for the second annual convention of the National Frozen Food Locker Association.

More than 33 manufacturers will exhibit their equipment. Experts on many phases of the locker industry are scheduled to speak on the topics with which they are most familiar. Unlimited opportunity will be provided for informal discussion of the industry's problems and progress. Ample entertainment has been arranged.

The convention will open at 8 a.m. on Oct. 28 with a call to order by Roy G. Myers, president of the national association, and will continue with reports of the various officers and committees.

First scheduled talk will come at 2 p.m., when Forest U. Fenn of South Dakota State College of Agriculture

(Concluded on Page 11, Column 4)

Early Efforts Will Aim At Holiday Business; Fewer Models Shown

FRENCH LICK SPRINGS, Ind.—In advance of usual industry showings by a full month, Stewart-Warner Corp. presented its 1941 line of household electric refrigerators to 400 members of its distributor organization and guests at its annual refrigerator convention here and in Indianapolis, Oct. 16 to 19.

Eight models are in Stewart-Warner's 1941 refrigerator line—four in the Dual-Temp series and four in the Standard series.

Dual-Temp models range in size from 6.3 to 8.0 cu. ft. net storage capacity, and from 11.5 to 16.5 sq. ft. in shelf area. Stand-out feature of the series is the "Freezing Locker" located beneath the standard food storage section, and designed for home-freezing of foods, storage of frozen foods, as well as for chilling of desserts and the making of ice cubes.

Normal storage compartment is equipped with a Sterilamp, and the two deluxe models in the series, 871 and 671, have a sliding vegetable crisper with glass cover, as well as a dry storage section in the cabinet base.

Standard series models have the conventional type evaporator. Master model 611 has a sliding vegetable crisper with glass cover, and a sliding, glass-topped meat chest directly under the evaporator. Model 801 in this series also has a vegetable crisper, and this model and the 611 have a dry storage base compartment.

All models in the line are powered by hermetically sealed compressors, all have exteriors of Dulux, and all are equipped with automatic interior light. Mineral wool insulation is used in all cabinets in the line. Dual-Temp models have 16-point cold control; standard models a 12-point control.

Presenting the new models in the 1941 line, Charles R. D'Olive, sales manager of Stewart-Warner's appliance division, covered major highlights of the present refrigerator market, and outlined the production and merchandising plans designed to maintain the present position Stewart-Warner holds in the industry.

Change in the sales aspect of the electric refrigerator from a strictly seasonal appliance to one of year-around promotion and sale was emphasized throughout the convention. Setting of the convention itself a full month ahead of usual industry showings was designed to bear out the year-around sales appeal of refrigeration.

A check of the company's Dual-Temp sales over the past two years, Stewart-Warner officials report, reveals a comparatively constant volume throughout all months. Summer sales still lead, but extreme peaks are no longer evident, they declared.

Factors outside the household refrigerator industry contributed largely to this changed sales situation, it was emphasized. Chief among these is the trend toward frozen foods, creating a month-to-month household storage problem not subject to seasonal limitations.

Earlier introduction of new refrigerator models, Stewart-Warner men believe, will be an important spur to Christmas refrigerator merchandising.

Stewart-Warner prices were maintained at normal levels during the past year, it was reported, despite the general industry price situation. In support of this, it was reported that 81% of all Dual-Temp sales during the first six months of 1940 were "step-ups"—sales of higher-priced models to prospects who first asked to be shown refrigerators at lower prices.

Following presentation of the 1941

Ready To Roll Down To Rio



Because it's summertime in South America when it's wintertime here, mass production of G-E room coolers for markets below the equator continues during the "slack" season at the company's Bloomfield, N. J. plant. South America is expected to take a substantial proportion of G-E's room cooler production this year.

'Don't Burn Yourself Out In First Five Minutes' Housewife's Warning To Enthusiastic Salesmen

DALLAS, Tex.—Tips on effective methods of selling electrical appliances are offered to salesmen by Dallas housewives in a series "If I Were Selling," conducted by Dallas Power & Light Co.

One housewife cautioned salesmen to soften up on the "high-pressure" selling, and to keep enthusiasm within bounds. Her advice follows:

"If I were selling electrical appliances I would make sure I had controlled enthusiasm for the value of each of my products. Many salespeople approach their customers with an obviously artificial enthusiasm which immediately turns the would be purchasers against the products as well as the salespeople. This kind of enthusiasm wears out quickly.

"Other salespeople who have a genuine feeling for the value of their merchandise approach their prospects with a burst of praise which exhausts their store of enthusiasm in the first few minutes of the sales talk.

"A salesman using a fiery beginning usually runs down before he can gain his customers' interest. The result is just as disastrous as that produced by a display of artificial enthusiasm.

"I would control my enthusiasm

when starting the sales talk. I think sincerity in the belief that my product fills a real need is the first impression I would want to leave with my customers. I would try to make that impression by asking questions to learn the specific needs of each customer. After learning customer needs, I would begin to show my enthusiasm for the particular qualities of my merchandise which meet those needs.

"The beautiful part of such a plan is that my customers would help me build a higher regard for the fine points of the appliance in question. Working together we could lead up to the sale in such a way that enthusiasm would be greatest after product values had been described.

"I realize that many salespeople would criticize me for getting the cart before the horse. They will say I should tell them how to get enthusiastic before telling them to curb their enthusiasm. My answer is that I wouldn't be a salesperson unless I had a great deal of enthusiasm regarding the value of my products. The easiest way to acquire it is to use the products you sell. Another way is to read manufacturers' literature with the eye of a consumer."

Monthly 'Clean-Up' Moves Used Boxes

JACKSON, Miss.—Monthly "clean-up" of trade-in refrigerators has been found the most profitable way to dispose of used merchandise by Burson's, Frigidaire dealership here.

With over 500 new homes being built each year in Jackson, Burson's has had less concern with trade-in allowances than is common to other parts of the country; but 25% of sales at present involve a used refrigerator.

Reconditioning of trade-ins is usually limited to the refrigerating unit and cabinet interior. Nothing is done to the outside of the box except for a superficial cleaning; \$10 is the limit that Burson's will spend on any trade-in. Most popular for re-sale are small models of 4, 5, and 6-foot capacity, for apartment house and "efficiency" owners. Warranties of from 30 to 60 days are placed on all; average price is between \$35 and \$40.

Displayed in a special section of the Burson showroom, trade-ins are expected to show a profit ranging from 10 to 20%. "Slow" models are subject to an end-of-the-month "cleanup," when all used units on hand are listed at markdown prices in the classified section.

They Ought To Run For an Office



Who said business men won't make good politicians? Look how these members of the Refrigeration Equipment Manufacturers Association pose and strike attitudes as they were about to have a group picture taken at their recent meeting at French Lick, Ind.

(1) On the top row (reading from left to right) Mel Knight of Peerless of America looks as though he were about to address his constituents. Ivan Corcoran of Square D tucks his chin into his collar in a Senatorial pose, and Otto C. Wilk puts on a "Willkie smile." In the second row H. T. McDermott of the R.S.E.S. prepares to look dignified while Ed Graff of Ranco stretches his neck so he won't be left out of the picture. On the bottom row we have an "I'm-all-set-take-it" smile by John Wyllie, Jr. of Temprite, a square-jawed profile from Frank Smith of Tecumseh, and a straight into the camera "I-mean-business" look from Jim Strachan of Kerotest.

(2) Not politicians, but they've both

been presidents. J. S. Forbes (left) of Superior Valve & Fittings Co. is the past and E. A. Vallee of Automatic Products Co. is the present, president of Rema.

(3) In this row J. N. Ott and Charlie Gary of Henry Valve Co. whip out their best smiles, but Jim Hood of Ansul Chemical Co. looks as though he were about to subdue a heckler.

(4) A lot of people might easily guess them to be precinct captains on a Sunday political outing but they are really Bill Keefe of Fedders Mfg. Co. and Bill Allen of Modern Equipment Corp. At the far right is Bob LeBaron of Virginia Smelting Co.

(5) Frank Gleason (who is a little more than an amateur politician) shows the others how to stand out.

(6) This was business. Frank Langsenkamp, president of the Refrigeration Supply Jobbers Association, with Jack Forbes, chairman of the Rema jobbers relations committee, whose report was covered in the last issue of the News.

\$125⁰⁰ LIST

FROZEN FOOD CHEST

THIS PRICE OPENS THE DOOR TO THOUSANDS OF NEW PROSPECTS

INTEREST IN COMMERCIAL
AND HOME FROZEN FOOD
NOW AT NEW PEAK!



HOLDS UP TO 100 LBS OF
FROSTED FOODS
FOR CLUBS, TAVERNS,
HOSPITALS, HOTELS, RETAIL
STORES, CITY AND RURAL HOMES

Dimensions outside, 36" x 32 1/4" x 22 1/4". Inside, 25" x 14" x 14 1/2". Net Capacity 3 Cubic Feet. Shipping weight 330 lbs. Freon Refrigerant. Five Year Guarantee. Delivered ready to plug in.

TAKE advantage of the new expanding home market. The demand is being created daily. The Arctic Trunk is priced to make a buyer out of every prospect.

Don't overlook the other markets—clubs, hotels, delicatessens, restaurants, taverns that have heretofore bought frosted foods daily in small quantities. The prohibitive costs of low temperature storage refrigeration has heretofore prevented many such users from taking advantage of quantity discounts. Everyone is a prospect.

How is this low list price with a full dealer profit, possible? Easy. The Arctic Trunk is sturdily built as described below. It maintains temperatures from 15° below to 5° above zero. It is economical to operate. It has a trouble-free sealed unit.

In a word, the answer to its price is the elimination of gadgets, (and quantity line production) a design that eliminates high manufacturing and assembly costs. It is just what it looks like. A utility product designed to do a job. Its price justifies its purchase by anyone who wishes to save money on home or commercially frozen foods.

WRITE FOR PRICES AND FRANCHISE PLAN

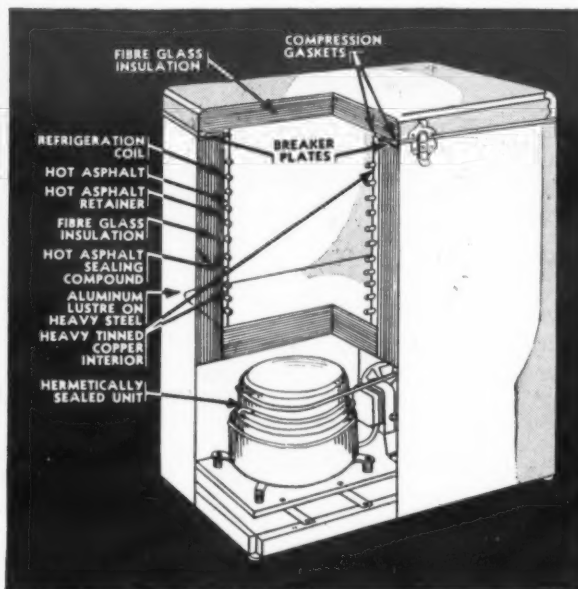
ARCTIC TRUNK

A ZERO COLD

JEWETT REFRIGERATOR CO.

ESTABLISHED 1849

BUFFALO, N. Y.



Sam's Selling Slants

V. E. ("Sam") Vining, merchandising manager for Proctor Electric Co., is the industry's most colorful salesman. This is the seventeenth of a series of Sam's famous "Selling Slants" messages to salesmen. An earlier series was published in the News in 1937, and later was published as a pocket-sized book.



RED NIGHT GOWNS

I went into a store in New York to buy a red night gown for—my wife.

A supercilious clerk, with her nose trying to stick up far enough to hide the disgust in her eyes, assured me, "they are not being worn."

On the same errand, I went into a similar store in Rochester and was assured by a woman who I know "wrote the book" that a red night gown was in shockingly bad taste. She shuddered.

Then I tried in Detroit. Red pajamas, sure; night gowns pink, blue, flesh, white, black—you name it—but red ones—Terrible!

It got to be a game with me. I tried to buy that nighty in every city across the continent. I received more advice than Mr. Pink has pills. I became America's best posted man on hot nighties that don't keep the cold out—but I didn't get my red nighty.

Then a little old lady in a store in Little Rock hung one all over me. And How!

Says she, "I'm sorry I haven't a red nighty in stock, but I know just what you want—just the idea you have in mind."

"You've a wife, I bet, who is different, and you want something different for her."

Did I love it? Listen, mister, hooley won't make the wheels go around—but it's the world's best-known lubricant.

Then she went to the back of the store and reappeared carrying a sheer thing in her loving arms as if it were her only child and she never wanted to part with it.

She didn't say 20 words, but she looked volumes of songs by Irving Berlin. She breathed romance, understanding, pride of possession, and a flattering confidence in my sense of appreciation. She even understood that a fat man interested in confectionery lingerie might not necessarily be womanhood's Public Enemy Number One.

And did I buy? You guess.

Detroit ASRE Hears Story of Mechanical Refrigeration vs. Ice For Fruit Storage

(Concluded from Page 1, Column 1) briefly, outlining the membership plans of the national society.

Speaker of the evening was Prof. H. A. Cardinell, research associate in horticulture at Michigan State College, who discussed results of comparative performance tests of ice and mechanical refrigeration used in the storage of fruit in reconditioned railroad refrigerator cars adapted as storage rooms for the farm.

Prof. Cardinell for some time has been conducting experiments in the storage of fruit in refrigerator cars used on farms. The cars are now being used extensively in Michigan as storage rooms, some 40 or 50 being fitted out since 1938, being purchased from railroads at a cost of from \$150 to \$250.

The storage of fruit in these cars is successfully combating the major marketing problem of small acreage farmers, in that it affords a cheap method of storing fruit to prevent "dumping," according to Prof. Cardinell.

The comparative tests of ice and mechanical refrigeration were conducted on the same farm, with identical refrigerator cars as the "cooling laboratories." The tests ran from September, 1939 to April, 1940, with day-to-day checks on the refrigerating performance in the two cars. Charts of temperature and relative humidity maintained in the two cars were checked, with the final test being the marketable condition of the fruit at the close of the test.

Drives For Members



JOE M. OBERC

Tests were run on several varieties of apples stored in the cars. Condition of the fruit at the start of the test was established by use of a pressure instrument which recorded the amount of pressure required to pierce the surface of the apples. As a further check against the ice and mechanical methods of refrigeration, a test was run in a common cold storage room, having no means of refrigeration.

First Variety				
	Sept. 20	Dec.	Feb.	April
Common Storage	17.7	12.4	10.5	*
Mechanical	17.7	12.0	11.9	10.7
Ice	17.7	12.2	11.5	11.4

Second Variety				
	Sept. 20	Dec.	Feb.	April
Common Storage	21.3	11.7	11.5	*
Mechanical	21.3	13.4	12.4	11.9
Ice	21.3	18.4	13.8	11.8

*Unmarketable.
The recorded figures in the tests showed little to choose between the mechanical refrigeration and ice systems. From month to month the mean temperatures and relative humidities varied but a point or two. However, the room which used cooling by outside air only showed poor temperature and humidity conditions, and the fruit had spoiled by the end of the test period.

However, shortly after the middle of the test period the farmer on whose place the tests were being made asked for a check on the condition of the fruit, and by means of the "pressure test" (the amount of pressure needed to push a blunt piece of metal a specified distance into the apple) and the "scream" test (by simply drawing your fingernail across the skin of the apple) it was shown that the fruit in the ice refrigerated car was in a better market condition, and that there was some shrinkage in the car refrigerated by mechanical refrigeration. At the end of the test period, however, the tests showed both to be about on a par.

Prof. Cardinell admitted, however,

that the mechanically refrigerated car was overloaded, and that the coil temperature was probably pretty low, so that the dehydration might have been caused by too low a coil temperature.

Furthermore, the normal method of keeping humidity high in such storages is by soaking down the dirt floors, and this apparently had not been taken care of properly in the mechanically refrigerated car.

In further tests being made on a larger scale this year, an effort is being made to give consideration to these factors, and to get results evaluated on a fair basis, Prof. Cardinell declared.

Cost figures on the two types of refrigeration were taken on a per bushel basis. Total cost of refrigeration equipment and materials used during the period was divided in each case by the number of bushels which

were stored during the period to arrive at the per bushel cost of storage.

For the cost of mechanical refrigeration the cost schedule was as follows:

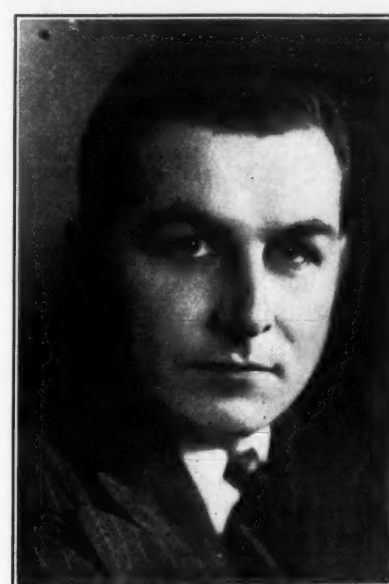
Cost of refrigerator car	\$ 158.85
Mechanical refrigeration equipment	1,155.00
18% on total investment on equipment, including taxes, insurance, and maintenance	\$207.96
10% on building investment	15.80
Power (one cent per kwh.)	46.68
Total cost of storing 2,000 bu.	\$270.44
Cost per bushel	.135

Cost schedule for ice refrigeration was as follows:

Cost of refrigerator car	\$158.85
Fans, baffles, etc.	83.50
18% on total investment on equipment	\$ 15.03
10% on building investment	15.80
Ice (58 tons at \$5 a ton)	290.00
Salt (1 1/4 tons at \$15 a ton)	18.75
Total cost of storing 2,700 bu.	\$349.58
Cost per bushel	.129

It is interesting to note the comparative annual operating cost of ice and mechanical refrigeration in these fruit storages. For mechanical refrigeration it was \$46.68; for ice it was \$348.58.

Heads Detroit Section



LOUIS S. MORSE, JR.
Chairman of Detroit section who announced contest for best paper on refrigeration subject.

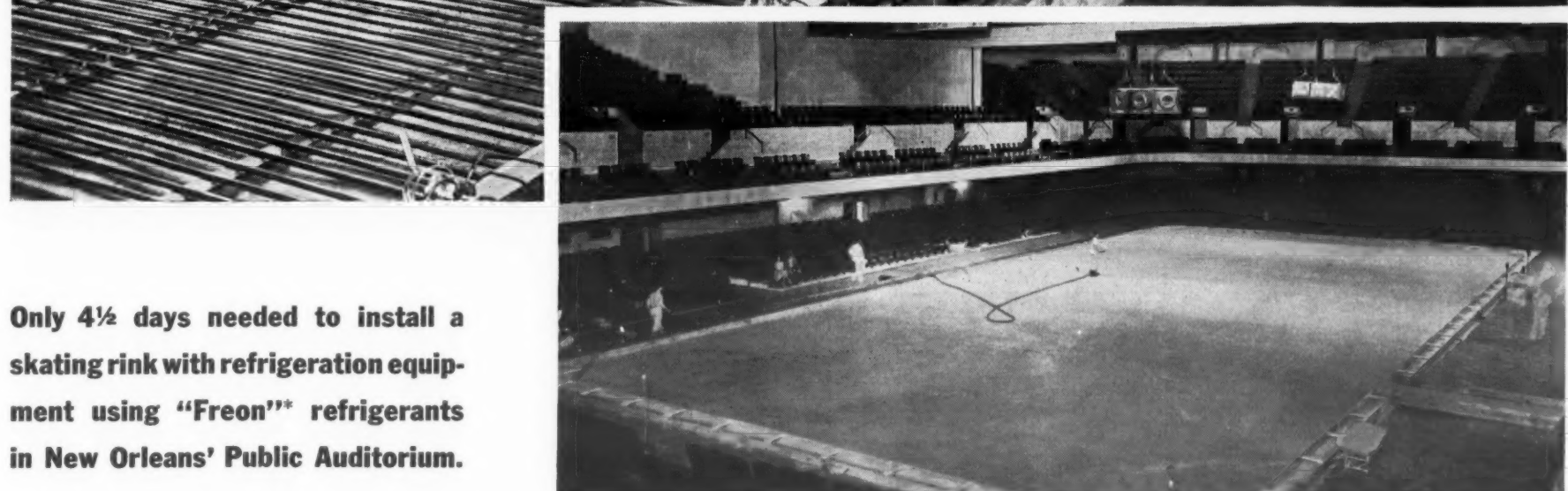
Markham Directs Airo Sales & Advertising

CHICAGO—C. R. Markham has been appointed sales and advertising manager of Airo Supply Co., refrigeration parts and supplies jobber, succeeding E. W. Scotten. Mr. Markham has had charge of the company's advertising during the past four years, and originated the "He Tried to Do It Himself" calendar cartoon series for which Airo has become known throughout the industry.

He has been in charge of the "Exhibition Review" which Airo has published daily during the All-Industry Shows, and planned this year's Airo picnic, which more than 750 persons attended.

Under the new arrangement, J. M. Lawyer will act as assistant to Mr. Markham, and R. M. Tolley, recently appointed office manager, will supervise general office routine and will have complete charge of credits and collections.

SUNNY SOUTH GETS RECORD "FREEZE"



Only 4 1/2 days needed to install a skating rink with refrigeration equipment using "Freon" refrigerants in New Orleans' Public Auditorium.

WHEN Prier Leary decided earlier this year to stage an ice carnival in the New Orleans Public Auditorium, he asked Walter Taylor, engineer of the Equitable Equipment Company, for advice on the rink. Taylor recommended equipment using "Freon" refrigerant.

In 4 1/2 days a direct-expansion system employing 1160 pounds of "Freon" was installed for a rink 61 feet wide by 120 feet long. The coils are 29,120 feet of 3/8" copper tubing. In just 24 hours two 60-hp Westinghouse seal-less condensing units in the basement froze the necessary ice. There are 3" of ice, with 1 3/8" of this over the coils. Through flexibility of control, good skating ice is readily maintained without air conditioning.

This outstanding engineering job shows clearly the economy, adaptability and real performance of equipment using "Freon." A brine installation would have required costly foundations and housing outside the auditorium and long insulated pipes. Lower maintenance cost is expected by avoidance of trouble with brine tank, coils, lines and pump. There is no leaking brine to deteriorate concrete. The coils are accessible and free from corrosion.

This is another case history, showing why "Freon" refrigerants are now used in a majority of new commercial refrigeration units, and almost exclusively for air conditioning. For economical, efficient and safe refrigeration—specify "Freon."

● The ice skating rink installed in New Orleans Public Auditorium in less than a week, with the aid of "Freon" refrigerants. Large photo shows the 29,120 feet of copper coils required for the rink, which is 120 feet long and 61 feet wide.

Be sure to tune in . . . "Cavalcade of America" NBC Red Network . . . every Wednesday evening



FREON

REG. U. S. PAT. OFF.

safe refrigerants

"Freon" is Kinetic's reg. trade mark for its fluorine refrigerants.

KINETIC CHEMICALS, INC., TENTH & MARKET STREETS, WILMINGTON, DELAWARE

Replacement Market Twice What Trade-Ins Show, Survey of 6,000 Refrigerator Buyers Indicates

Reasons for Choosing One Make Over All Others Told In Replies To 'This Week' Questionnaire

DETROIT—Why, in general, do purchasers of electric refrigerators choose one particular make in preference to another?

What is the actual extent of the replacement market? Do dealer trade-ins give an accurate picture of this market?

What income groups represent the most active market for purchases of new refrigerators? How do buyers of their first electric refrigerator compare with purchasers of replacement units as to general income levels?

Some rather significant facts regarding these present-day refrigerator merchandising questions are brought out in a survey covering 6,000 recent purchasers of electric refrigerators in six U. S. cities, made by the Detroit office of This Week magazine, publication distributed with the Sunday editions of metropolitan newspapers.

The survey, names for which were obtained from factory records, covered 5,599 sales made in 1940, and 401 in 1939. Cities selected for the study were Detroit, Chicago, Baltimore, Pittsburgh, Milwaukee, and Los Angeles.

Replies were received from 1,938 purchasers, or slightly more than

30% of all persons to whom questionnaires were sent. Conclusions of the survey are based upon these returns.

In addition to buyers' occupations, the survey also sought data on how many of the refrigerators represented replacements of previously purchased units, whether or not the old refrigerator was traded-in on the new model, and what reasons prompted the purchase of one particular make in preference to others on the market.

One of the most significant facts brought out by the survey was that actual trade-ins handled by dealers permit no accurate conclusions as to the actual extent of the replacement market.

Of the 1,938 purchasers reporting

What Happened To 456 Replacements

Traded In	243
Sold at Private Sale	93
Gave Away	53
Kept	39
No Report	18
Miscellaneous	10
TOTAL	456
	23.7%

in the study, 456, or 23.7%, said their new models replaced mechanical refrigerators purchased previously. Only a little more than half of these persons, however, traded in their old refrigerators on the new models. As compared with 243 actual trade-ins reported, 93 persons sold their old refrigerators themselves, 53 gave them away, and 39 kept them, either for auxiliary use in the home or for use in summer camp or cottage.

This would indicate that the actual replacement market is considerably larger than many dealers realize, if they base their estimates solely on the number of trade-ins they themselves handle.

CLASSIFICATION OF PURCHASERS

Importance of the moderate-income groups is shown by the accompanying classification of purchasers, which places approximately 65% of buyers reporting in the study in this general income level.

Leading class, with more than 40% of all buyers reporting, is the general skilled and unskilled labor group, with a total of 852 purchasers represented out of the 1,938 reporting in all groups. Second, or what might be termed the "white collar workers" or clerical labor group, and including office and store employees, government

(Concluded on Page 5, Column 1)

Why Did You Buy This Make?

Recommendation of Previous Users	500
Confidence in Salesman or Dealer	190
Good Service, Availability of Service	74
Business Reasons	42
Recommended by Testing Bureaus	37
Reputation of Company (Including Experience with Other Products of that Company)	186
Previous Experience Same Make	184
Reputation of Product	175
Comparative Shopping	257
Best Buy	171
Convenience Features	476
Better Mechanical Construction	394
Appearance	376
Economy of Operation	285
Price (Better Trade-In, Better Terms, etc.)	99
Needed Larger Refrigerator	27
Dissatisfied with Previous Refrigerator of Another Make	16

How Do You Make Your Living?

Factory Workers	439
Building Trades Workers	98
Truck Drivers, Taxi Drivers, Chauffeurs	82
Steel, Coal, and Oil Laborers	67
R.R. and Shipyard Employees	66
Misc. Unskilled Labor	48
Elec. and Gas Utility Employees	33
Telephone and Radio Employees	19
852	
Office Employees	178
Food Industry Employees	125
Government Employees	70
Barbers, Beauty Operators, Tailors	64
Printing Trades	31
468	
Salesmen and Shopkeepers	136
Professional (Doctors, Lawyers, Engineers, Etc.)	108
Real Estate Operators	66
Arts and Crafts (Musicians, Actors, Etc.)	44
354	
Housewives	175
Miscellaneous	46
Retired	32
Unemployed	6
GRAND TOTAL	1,933

Typical First & Second Refrigerator Buyers Compared By Occupations

FIRST PURCHASE	REPLACEMENT
Paper Salesman	Salesman
Metal Pattern Maker	Foundry Inspector
Factory Laborer	Presser
Porter & Cook	Waiter
Laborer	Laborer on the W.P.A.
Checker	Auto Trimmer
Jobber	Broker
Kodak Company	District Editor
Automobile Sales Mgr.	Lawyer
Housewife	Housewife
Shopman for Transit Co.	Locomotive Engineer
Fireman, P.R.R.	Bank Guard
Machinist	Iron Worker
Asst Custod. of Natatorium ..	Pharmacist
Cabinet Maker	Bumping & Paint Shop
Housewife	Housewife
Retired	Oil Business
Stationary Engineer	Electrician
Retired Tool & Die Maker ..	Retired
Button Hole Machine	Draftsman
Housewife	Housewife
Housewife	Housewife
Civil Engineer—With R.R.	Construction Supt.
Product Inspector	Telephone Engineer
Truck Driver	Truck Driver
Mechanical Engineer	Air Conditioning
Retail Coal Dealer	Used Car Dealer
Barber	Butcher
Draftsman	Accountant
Auto Worker	Auto Worker
Housewife	Housewife
Bookkeeper	Accountant
Repairman	Telephone Lineman
Paint Contractor	Real Estate
Union Railroad Laborer	Brakeman on Railroad
Lubrication Man	Painter & Paper Hanger
Office Worker	Accountant
Housewife	Housewife
Candy Worker	Western Md. Dairy
Steel Worker	Police Dept.
Accountant	Teaching
Housewife	Housewife
Grocery Store Clerk	Meat Cutter
Machinist	Stone Carver
Factory Worker	Milker
Laborer	Widow—Own Two Flats
Laborer	Hardwood Floor Contractor
Helper Sheet Metal	Architect & Engineer
Maintenance	Own Restaurant
Labor	Manufacturer

Famous Finishes



THE FINISH ...

OF THE ROSE BOWL CLASSIC

IS the end of a stirring
demonstration of human endurance.

SYNTEX WHITE SYNTHETIC ENAMEL

is a daily demonstration of endurance
combined with imperishable beauty.

More than 1,750,000 American housewives have seen this daily drama of endurance and beauty in their own homes and have learned to know Syntex White Enamel as the perfect refrigerator finish.

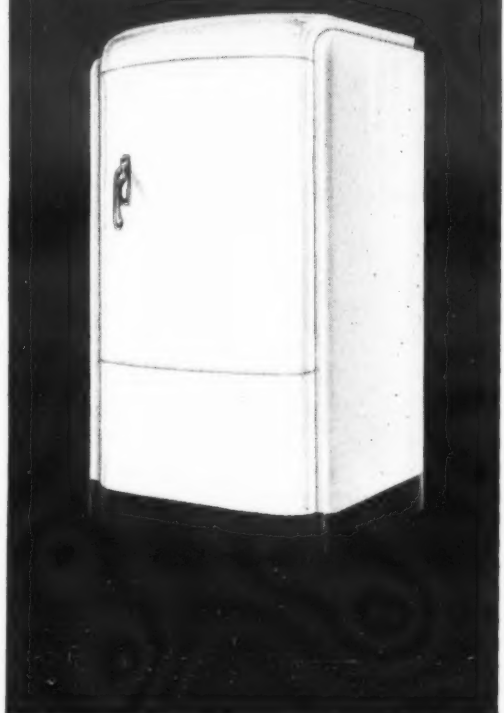
In many large manufacturing operations Syntex White is the standard finish. In others it is the safe alternate.

JONES-DABNEY CO.

Incorporated

SCIENTIFICALLY CONTROLLED INDUSTRIAL FINISHES

Factories at: Detroit, Mich.; Louisville, Ky.; Malden, Mass.



Users' Recommendation Is Big Factor In Influencing Buyers' Choice

(Concluded from Page 4, Column 3)
workers, barbers, beauticians, and the like, has 468 representatives in the study, or more than 20%.

Farther down the line is the business and professional group, with 354 representatives, while housewives, retired persons, those of unclassified employment, and jobless made up the remainder of the total. Of all those reporting in the survey, only six persons listed themselves as unemployed.

FACTORY WORKERS

Largest individual group of purchasers were factory workers, with 439, indicating the existence of considerable buying power among a class of persons generally considered to be employed on a day-to-day basis. On the other hand, office employees, of whom 178 replied to the survey, represent a group which has fairly steady employment throughout the year.

Dealers who are wondering where most of their replacement refrigerator business will come from will find interesting indications in the cross-section comparison of typical initial and replacement purchasers, by income groups. Here again the moderate-income group figures importantly.

SIMILAR INCOME GROUPS

According to the cross-section tabulation of these buyers, approximately 90% of replacement purchasers come from the same general income groups as do buyers of their first refrigerators. The remaining 10% of replacement buyers, however, represent income groups considerably higher than are to be found among typical first-refrigerator buyers.

To sales managers, this cross-sectional view will serve to emphasize one thing: The replacement volume market will be found among the same general classes which furnished the volume market for refrigerator sales after the industry hit its stride—the moderate-income groups.

REASONS FOR PURCHASING CERTAIN MAKE

Replies to the section of the survey covering reasons for buying one particular make of refrigerator in preference to others serve to re-emphasize the importance of "keeping the user satisfied" as insurance for future sales. No less than 500 persons reported their purchase hinged on recommendations of members of their families, or friends, who had previous experience with a refrigerator of that make . . . and another 184, representing replacement purchasers, reported that satisfactory experience with an earlier model of one particular make had made them decide to continue using that make.

Importance of user recommendations, it may be inferred from this, extends not only to purchases of refrigerators, but to other appliances manufactured by a company as well. Satisfied owners of refrigerators, therefore, may be considered to some extent "pre-sold" on an electric range or laundry equipment of the same make.

REASONS FOR SWITCHING

Only 16 persons reported switching brands on their second purchase because of unsatisfactory experience or service with their first refrigerator.

Importance of the dealer or salesman in the final outcome of the sale is indicated by the fact that 190 buyers reported this as a motivating factor in their buying decision. Recommendation of testing bureaus was given as a buying reason by 37 persons.

Reputation of the company behind the product was given as a determining factor in their purchases by 186 persons. Several of these were swung over to a certain make of refrigerator through their experience with other products manufactured by the same company. Another 175 persons said their purchase of the refrigerator was determined in part by the reputation of the product itself.

SHOP COMPARATIVE MAKES

Apparently buyers of refrigerators this year looked over a good many lines before their made up their minds, for 257 persons reported that

they had shopped comparative makes. Another 171 persons gave "best buy" as one of their reasons for purchasing one make, which would also indicate some shopping around on their part.

Buying the refrigerator is still a "family" affair, replies to the survey indicated. The word "we" appeared repeatedly in reasons advanced for purchases, and in several instances it was noted that the wife chose the refrigerator for appearance and convenience features, while the husband was attracted by mechanical construction and refinements.

CONVENIENCE FEATURES

As far as the refrigerator itself was concerned, convenience features apparently attracted most purchasers, for 476 of those replying to the survey listed some cabinet interior appointment or storage space as having been a factor influencing their choice. Mechanical construction—including motor, quiet operation, guarantee, and the like—was listed as a determining factor by 394 purchasers.

Appearance also was an important consideration with 376 buyers, while 285 persons were influenced by economy of operation, either through claims of salesmen or reports of previous users.

PRICE NOT IMPORTANT

Despite the fact that 1940 has been generally considered a "price" year, as far as refrigerator sales were concerned, only 99 buyers said that this had been a determining factor with them. Included in this group also were persons who bought one make because the dealer offered them a better trade-in on their old refrigerator, or who swung over because of more convenient payment terms. Twenty-seven persons gave as a reason the fact that they needed a larger refrigerator.

Although no signatures were requested on the questionnaire sent out in the survey, a surprising number of persons not only gave their names when making returns, but also volunteered their endorsements for any use the manufacturers might wish to make of them, in advertising or promotion.

BUYERS TELL WHY THEY BOUGHT SPECIFIC MAKE

Some typical replies to the "Why I bought this make" question follow: "I bought a . . . because I had a . . . stove, and liked it very much, and thought I would like a . . . refrigerator. We are very much pleased with both."

"Because of the service I have seen that all . . . equipment gave to my friends, and also because I have a . . . electric stove to match. I've never yet heard of anyone complaining about anything that was . . ."

"1. Because it could give me the value I wanted for every dollar I spent purchasing it. 2. My mother purchased a . . . in 1930, and it is still giving her excellent service, with only minor bills for overhauling in these 10 years. 3. It keeps my foods refrigerated correctly, and being a nurse, that is the most essential requirement that I can think of. P.S. My husband likes the sealed unit."

"Appearance inside and out—vegetable bin—sliding shelves—plate glass on crisper. It appealed to both my wife and myself."

"Because it is economical, convenient, neat, noiseless, and it has all the convenience in the interior and makes the kitchen look inviting."

"Because it is a well known make, and many of our friends and relations have bought the same kind and liked it very much."

"We have had four other . . .s, and all have proved to be most satisfactory."

"People say that all . . . products are good, so we bought the . . . It has proved very satisfactory."

"My mother had a . . . for 12 years, and had no trouble with it. That was enough reference for me."

"In only one instance did I hear of a . . . of a friend giving trouble and that trouble was remedied immediately by good service. The manufacturer's name also allowed me to buy with assurance."

WHO'S WHO WHERE

Sayre In New Territory

BUFFALO—William L. Sayre, former New York district manager of Edison General Electric Appliance Co., Inc., has been appointed manager of the Buffalo, Rochester, and Syracuse Hotpoint branches with headquarters here. He succeeds Charles H. Griffith, who has been called to Chicago to become head of the kitchen sales division.

Hollenbeck To Forbes

CHEYENNE, Wyo.—Russ Hollenbeck, associated with B. K. Sweeney Co. of Denver for five years as manager of its appliance department, has joined Forbes Music Co. here as manager of the electrical appliance department. Harold J. Harper, formerly employed in a Scottsbluff, Neb., appliance store, has been named manager of the laundry and cleaning appliance department.

New Concerns In Business

EAST LIVERPOOL, OHIO

EAST LIVERPOOL, Ohio—Star Furniture Co., with headquarters in Midland, Pa., has opened an exclusive Norge refrigerator and appliance dealership at 508 Washington St. here.

SHREVEPORT, LA.

SHREVEPORT, La.—The Good Housekeeping Shop has been opened by A. G. Sobral at 718 Texas St. here. The store handles the complete Norge line of refrigerators and major appliances.

SHEBOYGAN, WIS.

SHEBOYGAN, Wis.—The Ellinger Retail store has added a complete line of air conditioning units, stokers, oil burners, and heating controls to its home building and remodeling service.

McQuay Manager

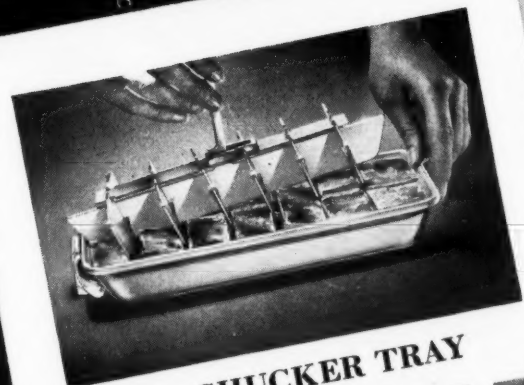


C. N. RINK
Heads air conditioning coil
division of McQuay, Inc.

FIRST CHOICE because they're The LAST WORD in

Maximum
Convenience

Minimum
Cost



The SHUCKER TRAY



The TILT OUT TRAY

Ice trays by Inland are the first choice for original factory equipment by leading makers of automatic refrigerators—and for replacement sales by dealers, because they are the last word in fast-freezing, quick-releasing ice cube convenience.

These two Inland Magic Finish Ice Trays make old style trays as unnecessary as weak, watery ice cubes. In a flash, these modern ice trays by Inland give you a few cubes at a time or a brimming bowlful . . . instantly, full-sized and unshattered.

For superswift, maximum convenience, it is the Shucker Tray all the way. And for the quick-release feature, at minimum cost, it is the Tilt Out Tray on every count. In short, for maximum convenience—for minimum cost—it's ice trays by Inland, the choice of refrigerator makers, jobbers and dealers. For details, prices and discounts, write to

INLAND MANUFACTURING DIVISION
GENERAL MOTORS CORPORATION
DAYTON, OHIO CLARK, NEW JERSEY



Remodels For Lockers

CADOTT, Wis.—Paul J. Brehmer, president of Beecher, Cumming, Inc., Minneapolis, has leased a building here which he plans to remodel and convert into a 300-locker refrigerated cold storage plant.

Plays the Angles—Profit Curve Goes Up

St. Louis Dealer Does 'Mongrel' Refrigeration Business With A 'Pedigreed' Performance

By James McCallum

ST. LOUIS—"I've learned a lot of angles during my 12 years in the refrigeration business, and I've found that the only way to get ahead is to play them all."

That is the hardboiled, practical philosophy of N. Lowther, who owns and runs Arrow Refrigeration Co. And that is also the explanation for the rather mongrel nature of the company's activities.

Primarily, perhaps (it's really hard to say just what is the biggest or most dominant part of the business), a service firm, the company also deals in new and used commercial refrigeration equipment, handles the larger, engineered type of commercial installations, sells both new and used household units on occasion, and—well, does just about anything else in the refrigeration line you want to name.

Here are a few concrete examples of the sort of business handled through this diversified set-up. Mr. Lowther sells new Curtis commercial equipment. He does service work for a number of dealers and also has the maintenance and service contract for all equipment used in the stores of General Grocery Co., a large retail chain. Through his dealer connections he will get a prospective customer any type of household refrigerator he desires—even to a Coldspot if necessary. He recently completed two big dairy jobs which amounted to about \$12,000 worth of business.

Despite this seeming hodgepodge of activities, there is nothing haphazard about Mr. Lowther's record keeping. He believes in keeping thorough and accurate records of all transactions, both as a means of determining profit and loss figures and as a basis for the promotion of repeat business.

In fact, Mr. Lowther asserts that "pocket bookkeeping"—which he describes as "the process of taking money out of one pocket and putting it into the other without ever knowing how much is in either"—is one of the chief factors handicapping

many commercial refrigeration operations today.

"In this business like in any other," he warns, "you've got to watch closely the relationship between costs and profit, or else wake up some morning to find yourself broke and out of business."

"Especially in service work is the record keeping important," Mr. Lowther points out, "for once a complete record on any particular machine is available, both time and money can be saved on repeat calls by merely referring to the reports of previous work on this same unit."

"The information gleaned from the record cards makes it possible in most cases to deduce the cause of trouble on the current call and to go out to the job properly prepared."

Another interesting angle of Mr. Lowther's business is that he makes a policy of selling merchandise on a time payment basis to WPA workers and others who for one reason or another can't get credit anywhere else.

Inasmuch as he handles his own paper he is able to do this, and he has found it a very profitable source of business.

"There are lots of people," he reasons, "who, although not fundamentally dishonest, have been forced by circumstances at one time or another to default on credit payments and thus to be blacklisted by most credit agencies."

"By selling these people, I manage to get business that other dealers can't or won't touch, and I've found that it usually pays out."

"Besides, if it doesn't," he explains, "I can always repossess the merchandise and resell it for more than what I have lost on the original contract. And even if I have to sell the unit three or four times, I can jack the price up enough each time to more than cover my costs and come out with a neat profit."

Ohio Dealer Expands and Plans Commercial Line

EAST LIVERPOOL, Ohio—A. L. McLain has taken over the Bowman Shop, giving him two stores on West Fourth St., handling G-E refrigerators and appliances, Stewart-Warner radios, and ABC and Everhot laundry equipment. He plans to add commercial refrigeration and air conditioning equipment next spring.

Showing Them His Commercial Line



In the new store of M. E. O'Bannon, Oklahoma City commercial dealer, plenty of provision has been made for "visual selling" with large windows.

M. E. O'Bannon Has Varied Commercial Line And Believes In 'Showing It Off' For Sales

TULSA, Okla.—M. E. O'Bannon Co., Oklahoma distributor for Koch commercial refrigerators, Schaefer ice cream and frosted foods cabinets, Mills store coolers and compressors, and other market equipment, has recently moved into a business home of its own at 222 E. First St.

The property, which was remodeled to suit the needs of the O'Bannon organization, has an 80-foot frontage on First St., with ample sales, display, and office space.

In addition to handling a complete line of both new and used commercial and market fixture equipment, O'Ban-

non has recently branched out into the locker plant construction field, for both commercial and household uses.

One of the company's recent commercial locker installations was in the South Utica store of the Fikes Food Stores, for the service of patrons of the establishment.

Another locker installation was in the home of H. P. Warfield here, and comprised a sharp freeze and storage system providing for the freezing at -25° F. of game and produce from the owner's farm and its storage for home consumption.

G-E Issues Sales Manual On Automatic Heating

NEW YORK CITY—To speed the effectiveness of both new and experienced salesmen of automatic heating equipment, General Electric has just released a new sales presentation manual. The new book was announced to G-E distributors at the Waldorf-Astoria hotel here recently.

The manual contains over 100 pages printed in two and four colors, bound into a zipper case, and is arranged in a manner that permits the salesman to tell any one of three distinct product stories—on the boiler-burner unit, the winter air conditioner, or the conversion oil burner.

While complete in itself, the booklet may be used by the experienced salesman as the basis for a personalized story.

Description of the product is fortified with a series of die-cut pages which show progressive stages in the oil-burning mechanism until a full-page, four-color cross section of the unit is revealed. At this point the salesman makes his first try for the order.

Other closing points are built around the questions, "Who Makes It?" "Who Sells It?" and "What Will It Do For Me?" The final bid for the order is based on testimonials, photographs, and the G-E warranty.

Savage Arms Cabinets To Have Sealed Units

UTICA, N. Y.—New models in the "Thrift" line of cabinets being made by the ice cream cabinet division of Savage Arms Corp. are being equipped with G-E "service-sealed" compressors, it has been announced. The G-E units are similar to those now used in G-E water coolers.

Freedom from common service complaints, more silent operation, and better performance over a period of years were the principal reasons behind the adoption of the unit in the ice cream cabinet line, the company reports. The G-E unit has only one rotating part, and eliminates shaft seals, pulleys, and belts.

Working parts of the compressor are easily accessible for field servicing, it is said, yet the unit itself has the efficiency and operating reliability of a completely sealed job.

Ice cream cabinets embodying the "service-sealed" compressor unit were shown in the Savage Arms booth at the Dairy Industries Exposition in Atlantic City.

Now It's 'Hot' Ice Cream

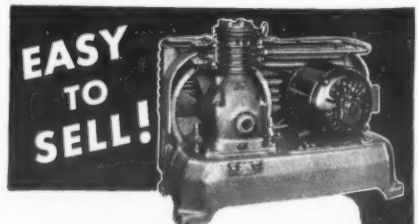
CHICAGO—"Hot" ice cream for sodas and as a topping for cakes, pies, fruits, and the like is being featured by the Triangle Restaurant, at 57 W. Randolph St. here, following the installation of a Tutthill Freezette 1-gallon portable counter-freezer unit.

Refrigerated Candy Case Booms 'Sweet' Sales

LINCOLN, Neb.—Use of a refrigerated candy case in the Bradford Pharmacy here has increased sales of chocolate bars, bon bons, and other perishable candies by 20% during the past year, estimates Don Mattison, owner of the establishment.

Refrigeration is not strictly essential for the candies, since the drug store itself is air conditioned, but the psychological effect of such a display on customers has been a big factor in increasing candy sales, Mr. Mattison believes.

The coil in the case is exposed, and is in itself an excellent display rack, Mr. Mattison said. During the summer months, when chocolate sales normally drop, the store lined the coil with candy bars so that customers couldn't help seeing them. Result was that sales nearly doubled during the months of June, July, and August.



More than 20 years of high reputation...in every kind of refrigeration service...has established the name "Lipman" as a BUY word that breaks down sales resistance. Make this reputation your sales asset...for greater profit and better customer satisfaction.

GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-1
Beloit, Wisconsin



COOLS WITHOUT DRYING!
DE LUXE
FLASH COOLER
Gleaming beauty combined with superior cooling and correct humidity.

Peerless
OF AMERICA INC.
Midwest Factory General Offices—515 West 35th Street, Chicago
Branch Offices: New York, Los Angeles, Dallas, Export Div., Detroit

Here IT IS!

The New LITTLE GIANT Purger

● An essential item and a profitable investment that quickly pays for itself because—

1. It reduces power costs.
2. It saves expensive refrigerant.
3. It reduces wear and tear on equipment.

ORDINARILY when the head pressure of a refrigerating machine seems to be too high the service engineer pumps the system down and purges by cracking the purge valve open. He hopes that the air and other non-condensable gases are concentrated near the purge connection. He tries to allow all of these non-condensables to escape without the loss of too much refrigerant.

With the "Little Giant" Purger the chance conditions—the seems—the pumps down—the hopes—the tries—and the too much—in fact, all the doubts—are eliminated. He knows definitely whether or not the system needs purging. If purging is needed it can be accomplished without interruption of the plant operation. He knows that non-condensable gases are concentrated at the purger. He can positively expel them without an appreciable loss of refrigerant.

Advantages of Purging With The "Little Giant"

NO GUESSING—

Positive indication when purging is necessary—the sight glass gives visible evidence of non-condensable gases in system.

NO REFRIGERANT LOSS—

The air in the system is completely separated from the refrigerant before the purge valve is opened.

SIMPLE TO OPERATE—

All operating valves easily accessible. Not necessary to check pressures or temperatures. No need to shut down the system.

POWER SAVINGS—

Power savings, due to a reduction in head pressure will pay for the "Little Giant" many times over.

MANUAL OPERATION—

Fully manually operated, there is no possibility of a slow leak developing which would cause a loss of refrigerant before cause is discovered.

THE

Little Giant Purger

is mounted on a solid oak panel and can be conveniently fastened to the wall or to other suitable locations. Write us for full particulars and instructions for installation and operation. Order through your jobber.

MUELLER BRASS CO.
PORT HURON, MICHIGAN

Cash in WITH SANIDAIRE

HEIGHT—10½ IN.
WIDTH—16 IN.
LENGTH—10½ IN.



THE COMPLETE PORTABLE HUMIDIFIER
WASHES • FILTERS
CLEANS
AND CIRCULATES
HUMIDIFIED AIR

Value Priced for the Popular Market
A Winter Profit-Maker

Burning noses, flaming throats, need the relief of humidified air. Sanidairé evaporates 4 to 8 gallons in 24 hours and healthful, pleasant, humidified air, filtered free of dust and dirt, gently circulates without draft. Plugs into electrical outlet. 17 years of fine engineering developed this superior humidifier with many exclusive features. Sanidairé is the biggest value on the market.

WRITE FOR COMPLETE DETAILS

United States Air Conditioning Corp.
Northwestern Terminal
Minneapolis, Minnesota

ACRN

Send complete details and prices on Sanidairé—the complete Portable Humidifier.

Name

Address

Town

State

Cross-section view below shows design and construction features of 220 and 221 Series direct acting solenoid valves.

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Machine Tools

RELEASE of embargoed machine tools to Russia by the present Administration appears to be one of the most short-sighted acts of recent history (and "recent history" has been an unbelievable succession of short-sighted acts). Aside from the fact that Russia is a potential enemy, machine tools are most desperately needed today by American industry.

Many manufacturers of refrigeration and air conditioning equipment are today trying to get ready to turn out munitions. Frigidaire, for example, is going to make complete machine guns. Fedders is to make bullet clips, Copeland is turning out naval orders, and so on. There's no lack of patriotism here, no "strike" of profit-minded capitalists. On the contrary, the manufacturers that we know are more than anxious to do their bit for defense.

Machine Tools Can't Be Bought Off Shelf

But machine tools can't be bought off the shelf. They must be fashioned, slowly and painstakingly. Not only is there a sudden need for enormous quantities of these machines-that-make-machines, but there's a deplorable shortage of the skilled labor that makes machine tools.

Partly because of the short-sighted (there's that word again) policy of the C.I.O. which prevents the training of apprentices, and partly because of the Great Depression, new machine tool makers have not been taught this exacting trade. And so it is that the machine tool business today is one business which doesn't require any salesmanship—aside from the brand of salesmanship required to tell a man who placed a big order last month that he won't be able to get delivery until 1942.

In addition to the tremendous need of machine tools for defense industries, there are scores of normal peace-time industries which sorely need new machines to replace obsolete and worn-out equipment. During the depression industry as a whole failed to rehabilitate its manufacturing facilities. Tax increases and labor difficulties further prevented needed replacements. And today many factories need new machines as badly as Britain needs airplanes and pilots.

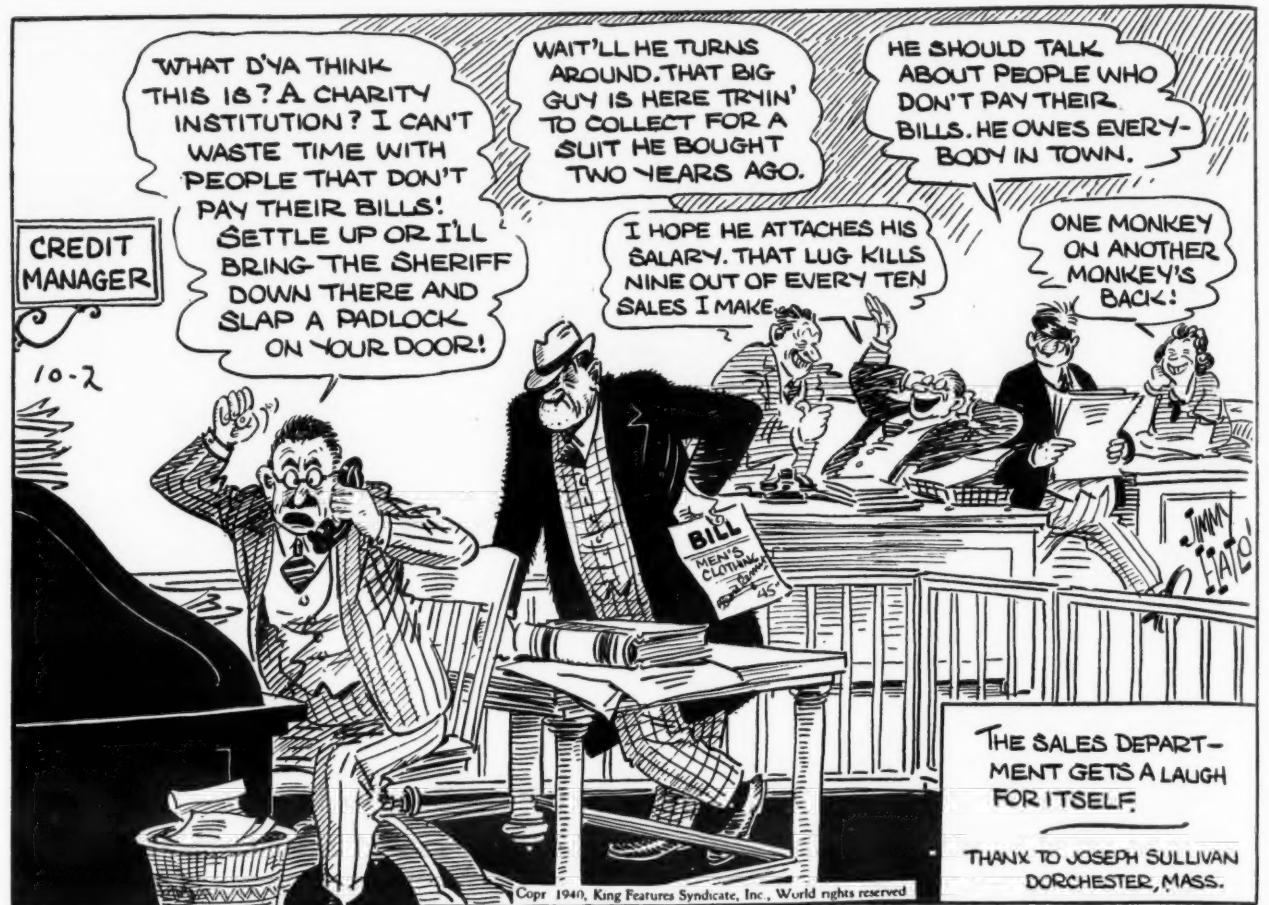
Our Industry Is Fortunately In Excellent Position

One bright spot appears in all this gloomy circumspection: the refrigeration and air conditioning industry is in a signally fortunate position with regard to machine tools. Being a relatively new industry, having prospered during the depression, and strongly competitive, this industry is possibly the best-equipped single manufacturing sector in the world today.

Factories which make refrigeration and air conditioning equipment appear to be adequately tooled to turn out their normal production "for the duration."

These factories also take comfort in this fact: Inability to obtain machine tools should completely discourage new competition from entering an already crowded field.

They'll Do It Every Time . . . By Jimmy Hatlo



LETTERS

'Don't Forget To Crank Up the Refrigerator Before You Come To Bed'

The Indicator
239 Centre St.
New York, N. Y.
Dear Mr. Taubeneck:

I am writing you through the courtesy of Mr. Fox, manager of the Refrigeration Division of R. H. Macy & Co.

A few years ago a refrigerator was developed which instead of utilizing electricity, gas, oil, or other fuel, uses a spring mechanism for its power.

The device is said to run 24 hours after being wound up once a day in a manner similar to a phonograph. The device does not use the ordinary refrigerants, as I understand it, not having seen the model, but subjects water to a partial vacuum thereby creating the lowering of temperature. It is perhaps applicable to other refrigerants.

The spring mechanism for a 4-cu. ft. box is said to weigh about 130 lbs. The patent has been granted to the inventor (Indrieri) on refrigeration by the aid of a spring mechanism.

I have several friends who may wish to get interested in the matter, and their first question brought up the possibility of some inherent weakness having prevented its exploitation heretofore.

As "Editor to Editor," I shall be very grateful for any comment you may have as to this proposition which Mr. Fox thought, had probably come to your attention. Any comment which you may wish to make confidentially will be kept so.

FREDERICK W. ZONS,
Editor and Manager

Answer: Men in the refrigeration industry with whom we have discussed the spring-powered refrigerator don't think much of it. They point out:

(1) Next to pride-of-possession, the sales point which has moved more people to buy electric refrigerators than anything else is convenience. They want something automatic, which requires no attention whatsoever on their part. In this connection, note that practically no spring-wound phonographs (except some portables) are sold today, and note the rise of electric clocks.

(2) If the spring mechanism for a 4-cu. ft. box weighs 130 pounds, shipping rates for the refrigerator would be excessive.

(3) Operating costs of modern electric refrigerators are so infinitesimal that you'd have a hard time interesting anybody in a spring-wound job outside of people who live beyond the reach of electricity. And in that limited market, you'd have the aggressive competition of absorption-type refrigerators operated by kerosene or bottled-gas burners.

(4) The household refrigerator industry is a blue-chip business. It would take an enormous amount of capital—plus exceptional brains plus experience—to gain a foothold in it today.

India Executive Interested In Device

North Western Railway
Headquarters Office
Lahore, India
July 15, 1940

Editor:

With reference to the article appearing on page 23 of your AIR CONDITIONING & REFRIGERATION NEWS dated July 14, 1937, I shall be glad if you will please ask the inventor of "Therhumiter," (the device for measurement of effective temperatures combining the effects of air temperature, relative humidity, and air movement) to send me full technical particulars and prices for this device.

General Manager

Answer: We have forwarded a copy of your letter relative to "Therhumiter" to its inventor, John R. Parsons, 151 E. 19th St., New York, N. Y.

Australia's Leading Refrigeration Mfr. Sends Tribute

Electricity Meter & Allied Industries, Ltd.
Joynton Ave., Waterloo
Sydney, Australia
July 23, 1940

Dear Mr. Taubeneck:

I was very sorry to learn of the death of Mr. F. M. Cockrell.

Through REFRIGERATION NEWS he came to be well known and to be held in very high regard in this country, so that we feel that his death has meant the passing of an old friend.

Please convey to Mrs. Cockrell my sincere sympathy, and accept my best wishes for the continued success of your paper.

J. E. CARROLL,
Managing Director

'The Good It Does The Industry'

Lee-Shell Corp.
1141 West Madison St.
Chicago, Ill.

Sirs:

Enclosed please find our check for \$4 for which you will enter our subscription for 52 issues of AIR CONDITIONING & REFRIGERATION NEWS.

We are acquainted with your magazine and the good it does the industry. We have often snatched an issue here and there for perusal, but never thought of subscribing until we had received your recent correspondence.

I. W. SHELL, President

Economical Use of Evaporative Condenser

Peerless of America
515 W. 35th St., Chicago, Ill.

Editor:

Some time last spring you published an article covering the economical use of an evaporative condenser as compared to a water-cooled condenser, based on water and electrical cost.

We neglected to file this issue, and we find now that the article men-

tioned would be very useful to us. Therefore, if possible, we would appreciate receiving the issue which contained the article, or a reprint of the article.

We will be pleased to remit whatever charges are in order for this service.

WILLIAM S. MELVIN

Answer: On page 15 of the March 6, 1940 issue of the News is the article which we imagine you have in mind, "Photo Supply Firm Reports on Various Types of Condensers." We are sending you a copy of this issue.

QUOTED

Importance of Selecting The Right Dealer

(from Advertising Age, Oct. 14, 1940)

A recent news story in Advertising Age explained the reasons for the change of policy of the Crosley Corp. as a result of which experienced automotive dealers will hereafter distribute the Crosley automobile.

The experiment of attempting to sell and service it through Crosley radio and refrigerator dealers turned out unsuccessfully, as had been freely predicted by those most familiar with the problems of automotive merchandising.

It is interesting to note, too, that the new Ford tractor will have the benefit of tailor-made distribution, since the Ferguson-Sherman Co., distributor of the product, is appointing dealers regardless of their activities in the sale of Ford cars and trucks.

When the Fordson tractor was put on the market twenty years ago, the company required dealers to take tractors in proportion to their sales of Ford automobiles, and many a successful Ford dealer was hamstrung by having to tie up a lot of his working capital in tractors for which his particular market had little demand.

Besides selecting Ford tractor dealers on the basis of their facilities for selling the farm market and their ability to contact it successfully, those in the trade have approved the idea of requiring these dealers to be amply financed, and to carry an adequate stock of tractors and parts. This is in line with established Ford policy, and means that a strong organization will be functioning in behalf of selling and servicing the new tractor line.

Both the instances referred to indicate that merely stocking "dealers" is not enough to insure successful merchandising, regardless of the extent of the market or the general acceptance of the brand name. The right dealers, capable of intelligent presentation of the product and satisfactory servicing after it reaches users, must be on the job if permanent success is to be assured.

In the case of high-priced mechanical specialties, the character of the dealer and his ability to render service after sale are far more important than the number of retail outlets. Proper selection of dealers is therefore the first requisite of successful distribution and sales.

Department Store Promotes Room Cooler Sales By 'Model Living Room' Display

NEW YORK CITY—An effective merchandising program on Westinghouse Mobilaire room coolers, built around a "model living room" display, has been done this year by the John Wanamaker department store here. It was decided to promote the package air conditioning units around the theme, "healthful comfort." To make the sales presentation more effective, an actual room was set up in the store with a Mobilaire installed and operating.

A large room was partitioned off to give a space 14 by 16 feet, with a 16-foot ceiling. The room was painted a light buff color and the floor rug is a neutral gray. Two decorative floor lamps were set up in opposite corners, and wall space was broken up by hanging two circular medallion type paintings of flowers. Leather-covered chairs were placed in the room for the comfort of prospects.

EYE APPEAL

Entire setting of the room was designed to give the appearance of comfort and pleasing eye appeal. The actual operation of one of the room cooler models in the window of the demonstration room gave prospects an idea of how the units would look in their own living rooms.

Model installed in the window was the WA-06, the Mobilaire with 6,000 B.t.u. per hour cooling capacity, adequate for the average office or living room. Also shown in the room were the two other models—the FA-09, a floor model and largest of the Mobilaire, and the WA-04, the other

window model in the line. A small table was used to hold folders and literature.

The room has been used throughout the warm summer months for the demonstration and display of Westinghouse Mobilaire exclusively. The unit installed has been in operation every day.

Retail men who took prospects to the demonstration room attended sales meetings and were schooled in the use of the "Selecto-Guide" a reference booklet used by Mobilaire salesmen to determine, according to size of room and other factors, which model of the room cooler line would be adequate for any specific requirement.

DISTRIBUTOR COOPERATES

Times Appliance Co., Mobilaire distributor in New York City, cooperated in having the installation made at the store, conducting sales schools, and working out a satisfactory merchandising arrangement. S. F. Myers, E. J. Hegarty, and W. R. Mason of the Westinghouse company conducted these schools for retail salesmen.

The demonstration room has proved highly effective. It served the purpose of building the prospect's desire to own a Mobilaire, and the salesman proceeded from that point with his follow-up work, which in most cases had to be done in the home. Since women were far in the majority among the prospects, the salesman had the job of selling the man of the house as well as the prospect during his follow-up program.

Air Conditioning System Boosts Summer Attendance In East Memphis Church

MEMPHIS, Tenn.—Cleanliness, as the old saying has it, may be next to godliness—but comfort is running a pretty close third, in the experience of the East End Christian Church of Memphis, since a complete air conditioning system was installed in the church building last summer. The congregation, which showed a definite tendency to dwindle during hot weather, returned to the fold in full force after the cooling equipment was installed.

During the past five years, summer church attendance had fallen off to a point where Sunday morning services showed a congregation of only half of what could be expected during cooler weather. This trend continued without change until the pastorate hit upon the idea of air conditioning as a possible solution.

The McGregor Co., local Frigidaire distributor, was consulted, and after an estimate was made on the cost of equipment, the church deacons placed the plan before the congregation—and it was affirmed.

Because of the fact that the church

is used only once or twice a week, with the exception of Sunday, the conditioning system was designed to have unusual flexibility. Total capacity is 25 tons, which takes care of from 350 to 400 people. Heat is supplied by a gas-fired furnace.

Cool air is delivered from duct outlets 18 feet above the congregation through ceiling-type air diffusers, so that it "mushrooms" down over the room without drafts.

The system was installed at a cost of \$5,000, to be drawn from church funds over a two-year period. The increase in attendance is said to be an important factor in enabling the church to pay for the new cooling system.

Kresge Co. Cools Store

LINCOLN, Neb.—The S. S. Kresge Co. has just completed construction of a three-story building here equipped with a deep-well air conditioning system. Installation was by F. L. Deines of Lincoln.

Kinetic Chemicals Sets Up New Type Of Distribution System For 'Freon-12'

(Concluded from Page 1, Column 3)
"national user" from consideration other than that of an ultimate consumer.

Claims for the wholesale allowance are to be filed on a form provided to the wholesaler, and this form calls for the name and address of the reseller and the cylinder number of the refrigerant drum. Claims will be allowed only on the sale of "Freon-12" in cylinders which have been charged with "Freon-12" by Kinetic and delivered by Kinetic either from factory or warehouse direct to the wholesaler making the claim. Such cylinders must bear Kinetic's I.C.C. registration number and have had

none of the "Freon-12" removed from them prior to the sale, the company regulations provide.

It is said that checkers will be employed whose sole duty will be to go over each of the forms and determine whether the claim has been properly or improperly made. Those that have been properly made will be allowed, and those which have not been made with full regard to the rules will not be allowed.

In addition, field investigators will probably be employed, who will take the forms and call on all retailers mentioned in the forms to determine if they are resellers of refrigerant, or parties who are ineligible.

'Healthful Comfort' for Any Home



This is the method used by salesmen for the John Wanamaker department store in New York City to demonstrate a Westinghouse Mobilaire window type room cooling unit to a customer in the store's "model living room." Prospects were shown packaged air conditioning units in full operation in the display room, which was designed to emphasize how well this equipment would fit into the decorative scheme of any home or office.

New Office Building Heated and Cooled By 275 Units

ST. PAUL—Year-around air conditioning is being provided in the new Minnesota Mining & Mfg. Co. office building here by 275 Carrier Weathermaster units. The new building, which is one of the most modern erected in Minnesota in recent years, has a cafeteria to serve the 471 employees.

Standard design conditions are provided by a system using 380 g.p.m. of well water at 50° F. During winter months the building is heated with the same units.

The ventilation system for the new building brings in fresh air at the rate of 15,874 cu. ft. per minute, equivalent to 30 cu. ft. per minute for each occupant of the building. Outdoor air is drawn from the roof to the sub-basement.

2 GREAT PLANTS in Gear WITH AMERICA'S GREATEST INDUSTRIES

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These two modern factories are concrete proof of Fedders service to industry... to transportation... to defense... to health... to comfort... to AMERICA! In gear with today's greatest industries, these Fedders plants build...

AUTOMOTIVE RADIATORS ★ AUTOMOBILE HEATER CORES
AIRCRAFT ENGINE AND OIL COOLING EQUIPMENT
ELECTRIC REFRIGERATION APPLIANCES
HEATING AND AIR CONDITIONING EQUIPMENT FOR ALL PURPOSES
UNIT HEATERS ★ ELECTRIC WATER COOLERS

The ability of Fedders products to do their work superlatively well has been responsible for worldwide acceptance of the name plate "MADE IN U. S. A. BY FEDDERS."

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Deluxe Service and Complete Facilities Offered By Fast-Growing Locker Plant

Research Program, Kitchen Laboratory, Reception Room and Displays Build Consumer Acceptance

DECATUR, Ill.—Completeness of facilities and of service has been the guiding principle of Polar Service Co., big ice manufacturing and distributing firm here, ever since it first jumped into the refrigerated locker storage business some four years ago.

As a result of this policy, the Polar Service plant now holds 1,500 lockers all of which are in use. The company plans to add 500 more lockers in the near future. And another 500 can be quickly installed next year if the demand increases.

The customary chilling, aging, and butchering facilities for meat are provided. In addition, the company offers its locker patrons the benefits of its kitchen laboratory for the processing of fruits and vegetables, a poultry killing house, an egg candling room, and a retail meat and produce sales department.

The plant has no quick-freeze room, however, for the processed and packaged products are placed directly into the lockers, where the temperature never varies more than 1° from 3° above zero F.

Polar Service Co. long has operated one of the largest ice manufacturing plants in Illinois, outside of Chicago. Capacity of the plant is 100 tons of ice per day. The plant has 300,000 cu. ft. of refrigerated space available for commercial use.

For more than 15 years a growing number of rural families had been making use of the plant's cold storage facilities, so the company gravitated very naturally into the refrigerated locker storage business.

In July, 1936, 50 lockers were installed. This number was increased to 200 by February, 1937, and to 300 at the end of that year. Then the space allotted to locker storage was enlarged to accommodate 900 lockers.

RESEARCH FOR PATRONS

In order to provide better service for its locker renters, the company began to ferret out all sorts of facts about the freezing of foods. These facts it passed on to its patrons.

The firm also set about to win more locker customers through staging demonstrations, organizing educational drives, resorting to general publicity, and stressing the angle of promoting public welfare by means of the sanitary processing and storage of food products.

In line with this policy, the modern kitchen laboratory was set up, primarily as a means of proving the company's own findings in regard to produce processing and to provide facilities for further experimental work. The company then began to tell its locker patrons and the public at large about its findings in this field, and made the kitchen's facilities available to the plant's customers for use in preparing their own foodstuffs for freezing.

In 1939 the capacity of the plant was increased to accommodate 1,500

locker customers. The chilling, aging, and cutting plant was considerably enlarged. A poultry killing house was provided.

Additions to the Polar Service plant are made only as the number of customers increases. This sort of gradual expansion is made possible by the fact that the plant was originally established in a four-story brick building 100 feet long and 80 feet wide, all of which is insulated and under refrigeration.

Reception room of the plant has colored tile floor, modernistic trim, tasty furnishings. A ladies restroom and lounge adjoin it. A girl receptionist is constantly on duty.

Nearby is the retail sales department, where meat, cheese, honey, eggs, and other products are displayed in refrigerated cases. Plainly in evidence are the meat block, scales, slicing machine, wrapping counter, and all the other familiar accoutrements of the typical meat market.

LOCKERS GROUPED

Four sections of lockers adjoin this room. Each has its own entrance through a separate door fitted with a large glass panel. Limits of locker numbers in each group are lettered on the doors. A brightly lighted vestibule about 5 feet deep is located between each entrance door and the inner door that opens into the locker room beyond.

Three well lighted refrigerated display windows are recessed between the outer doors leading into the locker rooms.

Next in line is the egg candling room, and near it is the modern processing room where the plant's butchers cut the chilled and aged carcasses into the chops, steaks, and roasts requested by the locker patrons. This room is equipped with a meat sawing machine, various types of grinders, a self-locking carton machine, meat block, sink, wrapping table, a package tying machine, and rubber stamps for properly marking the packages.

All types of meats are handled. To give an idea of the plant's charges, corn fed baby beef is cut up, wrapped, and put in the patron's locker for 19 cents per pound of the side, 17 cents per pound of the fore quarters, and 21 cents per pound of the hind.

Steaks and leftovers from the trimmings are ground into hamburger or sausage at 2 cents a pound. Meat is cut for 1½ cents a pound. Poultry is dressed for 15 cents per head and packaged for 6 cents per head.

MEAT CONVEYOR

A modern overhead meat conveyor facilitates the transfer of carcasses from truck to chill room. This room is held at a temperature of 31° to 32° F. Aging room is held at 34° to 38° F., with relative humidity controlled closely to 94%.

Three sizes of lockers are available. Lockers in the first group are 36 inches deep, and have a capacity of 3½ cu. ft. Lockers in the next group are only 30 inches deep, but have enough added height and width so that their capacity is the same as those in the first group. Remainder of the lockers are about 20% larger than the others, measuring 16 x 20 x 30 inches.

The two smaller sizes rent for \$9 per year, while the larger lockers rent for a proportionately higher fee.

The plant is open from 9 a.m. to 9 p.m. daily, except Sundays when business hours are from 8 a.m. to 4 p.m.

Refrigeration for the Polar Service plant is provided by brine delivered at 14° F. from the same source as that supplied to the commercial storage section and ice plant. The plant's refrigeration equipment has a capacity of more than 300 tons. All equipment is electrically powered.

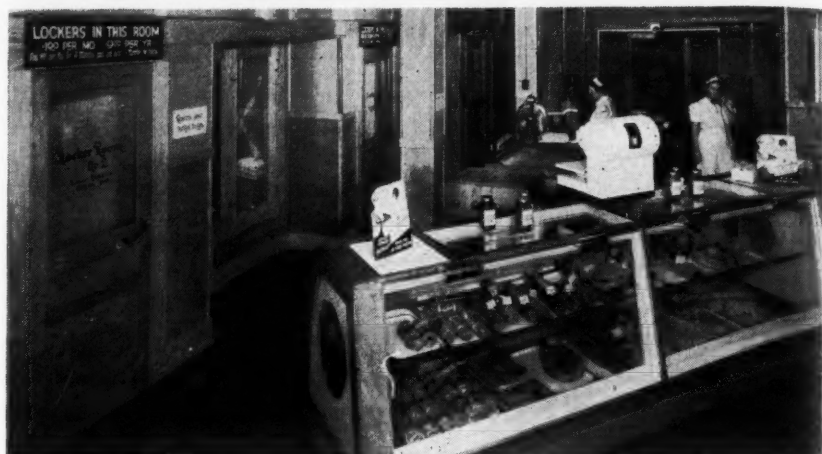
Brine circulation is controlled by hand regulation, but the low pressure compressors cut in and out with a pressure control holding the ammonia suction pressure between 0 and 3 lbs.

Because of the low temperatures maintained in the plant, all piping and connections inside the building had to be protected as well as those on the outside. All plumbing is of a concealed nature, due to the plant's insulated walls. A unitary steam heater was installed to keep the rest-room warm.

Another For Wisconsin

BLACK RIVER FALLS, Wis.—S. C. Olson is erecting a 29 by 56-foot cold storage locker plant here, equipped with York refrigeration by Westlin & Campbell Co., Madison, Wis.

Decatur Plant Offers Service Plus



This retail meat and produce department is typical of the complete service made available by Polar Service Co. Recessed space between locker room doors at left is for display of food products.

Oregon Locker Association Leads Movement For State Educational Program on Frozen Foods

Research Sought on Five Pressing Problems

PORTLAND, Ore.—Three representatives of the Oregon locker industry have petitioned the experiment station committee of the state's board of higher education for the institution of an extensive program of research and consumer education in regard to the processing and storing of frozen foods.

The delegation making this request was comprised of C. C. Condit of Forest Grove, L. M. Ramage of Salem, and E. C. Reiman of Corvallis, all members of the Oregon locker association.

Declaring that such a program would greatly benefit the 225 cold storage locker plants in Oregon and the estimated 280,000 persons served by them, the men pointed out that although the work of the federal government at Seattle and of the food industries department at Oregon State College had produced much authoritative and helpful information on vegetable and fruit freezing, much still remained to be learned about the science of meat storage.

The delegation listed the following problems as especially important and

worthy of detailed study: the development of "off" flavors in pork fat; elimination of bacteria and molds; regulation of temperature and humidity; relation of feeding to ultimate meat flavor; control of dehydration in ground meat.

Mac Hoke of Pendleton, chairman of the experiment station committee, reported that the Oregon livestock industry is vitally interested in the success of the locker plant industry, as the use of lockers for meat storage has increased the consumption of meat, especially in rural areas, to a marked extent.

The state committee promised careful consideration of the locker men's request, but no action has yet been taken.

To impress upon the committee the growing importance of the Oregon locker industry, the locker men cited the fact that there are now an estimated 70,000 individual lockers in the state, representing an investment of approximately \$1,500,000, an operating budget of \$500,000 a year, and an annual payroll of \$75,000.

31.3% of NEW Locker Plants ARE MASTERBUILT Equipped

The survey made by the Extension Division of the U. S. Dept. of Agriculture revealed an increase of 1009 plants in the year following its previous report. Master during the same period supplied lockers for 316 plants or 31.3%. There's a record that speaks for itself.

Master Features Outstanding

Flexibility of installation is only one of the many SAF-T-LOC features. All in all, its many desirable features will effect a saving for the locker plant owner in money, time and labor.

Not only are they sturdy and easy to assemble individually, but they permit individual removal from the bank.

Write Us For Construction Details

You will want complete details on the construction of the SAF-T-LOC. You can't appreciate the new advantages it offers until you have the complete story. Write for them today.

Endorsed and sold only through distributors of refrigeration and insulation.

Visit Our Exhibit At Frozen Food Locker Conference, Chicago, Oct. 28-29-30 Booth No. 82

SAF-T-LOC Food Storage Locker

MASTER REFRIGERATED LOCKER SYSTEMS, Inc. 121 Main St. Sioux City, Iowa

Nearly 200,000 Masterbuilt Lockers in Use

Watch FOR

THE NEW McQUAY

ZERO-PAK Junior

Speed Tunnel Freezing

FOR LOCKER PLANTS UP TO 100 LOCKER CAPACITY

SEE WHY

SPEED TUNNEL FREEZING IS BEST

POWER COSTS ARE LOWER WITH "FORCED AIR"

DEFROSTING REQUIRES BUT TEN MINUTES WITH ZERO-PAK UNITS

SEE IT AT THE NATIONAL LOCKER SHOW

BOOTHS 108-109

Visit the Locker Show in Chicago and see for yourself, the features that make McQuay ZERO-PAK LOW-TEMP UNITS the preferred equipment for modern locker plants in 16 states. McQuay, Inc., 1607 Broadway Street, Minneapolis, Minnesota.

ZERO-PAK
Speed Tunnel Freezing FOR LOCKER PLANTS

Michigan Locker Owners Hear 'Lowdown' on Processing, Insurance, & 'Deepfreeze'

High School Home Economics Students Sit In On Quarterly Meeting of State Association

By James McCallum

PLYMOUTH, Mich.—Preparation and storage of frozen foods, insurance coverage for locker plants, and the place of the new Deepfreeze home storage unit for frozen foods in the locker storage picture, were the topics discussed by speakers at the quarterly meeting of the Michigan Refrigerated Food Locker Association held last week at the Mayflower hotel here.

The meeting began with a general session open to the public as well as to association members. The "younger generation," to whom locker plants and frozen foods may someday be as common as grocery stores and canned goods are now, was represented at this meeting by the home economics class of the local high school.

PROFESSORS LECTURE

Speakers at this session were Profs. Seaton and Blakesley of Michigan State College, East Lansing. Prof. Seaton presented a brief review of the frozen food and locker storage industry, citing the fact that at last count there were some 85 or 90 locker plants in Michigan.

He discussed the types of fruits and vegetables best suited for freezing, and the most satisfactory means of preparing them. "Avoid freezing products with high water or starch content," he warned. He also spoke briefly on the various types of containers suited for produce to be frozen and stored.

Prof. Blakesley, a meat specialist, spent most of his time describing the proper ways of cutting meat for locker storage. To illustrate his points more graphically, he used some meat charts prepared by the National Livestock & Meat Board in Chicago, and suggested that locker plant owners obtain some of these charts not only for their own use but also for distribution to their customers.

40-LB. WRAPPER BEST

What is the best kind of paper in which to wrap meats for freezing and storage? Prof. Blakesley reported that experiments at the college had indicated that a paper of about 40-pound weight and waxed on one side (this side to go next to the meat) was most satisfactory.

Citing the advantages of preserving seasonal produce, the economies made possible by wholesale purchasing and storing of foods, and the quality of foods obtainable in this way, as the three real reasons for the use of locker storage plants, Prof. Blakesley urged locker patrons to plan ahead in order to obtain the maximum advantage from their locker facilities.

Elwyn Younker of Lapeer, secre-

tary-treasurer of the Michigan group, presided at the opening of the meeting's second session.

First speaker was William Goodridge, special agent for Hartford Steam Boiler Inspection & Insurance Co., who described his company's plan for locker plant insurance.

Mr. Goodridge summarized the coverages available to protect the plant owner against loss arising from accidental failure of the refrigeration equipment as follows:

INSURANCE PROTECTION

1. Direct loss on the apparatus itself.
2. Direct loss on other property of the owner.
3. Loss on the owner's food products.
4. Loss on property of others for which the owner is liable, including liability for loss of use of such property.
5. Loss of refrigerant or brine.
6. Consequential damage, or spoilage due to lack of refrigeration of food products (both for the owner and for others for which the owner is liable) in cold storage or in process.
7. Use and occupancy insurance, or indemnity for loss resulting from total or partial prevention of business.

The owner's liability for death or injury resulting from an accident to the refrigeration equipment also may be included if desired, Mr. Goodridge pointed out.

COVERAGE LIMITED

Shutdown of equipment from occurrences which are of a maintenance nature, such as burning out of a fuse, failure to replace a worn part, or gasket leakage, is not covered by this insurance, he warned.

Important provision of this type of insurance coverage, Mr. Goodridge explained, is the periodic inspection service which is rendered without additional charge. Trained inspectors check the insured equipment periodically throughout the term of the policy. The owner is thus warned of any dangerous conditions which may have arisen as a result of normal wear, or because of defective temperature or pressure controls or inoperative safety devices.

All such insurance is written on a three-year basis, he declared, and the base rate for the three years is about \$100. No arbitrary figure can be given for the cost of insuring a locker plant, he said, as this cost depends entirely upon the size and type of equipment involved.

Following Mr. Goodridge on the program was another insurance

agent, Raymond L. Jennings of American Insurance Group.

Mr. Jennings confined his remarks to the insurance of the produce stored in the locker plant. Pointing out that in most cases the plant owner or operator is under no legal obligation to reimburse his customers for loss of their produce due to failure of the plant's refrigerating equipment, he stressed the fact that the owner was nevertheless under a definite moral obligation to do so.

Mr. Jennings closed his brief talk by suggesting to members of the locker association that they appoint a three-man committee to consider the problem of plant insurance, and the possibilities of taking group action on this matter.

Last speaker of the meeting was J. M. Stewart of the Deepfreeze sales organization. Mr. Stewart explained that the Deepfreeze unit was a supplement to, not a substitute for, the locker plant.

NO COMPETITION

He told the operators that instead of constituting a competitive problem the Deepfreeze unit offered them a two-fold chance to increase their income through handling retail sales of the unit and through processing and "wholesale" storage of the greater volume of produce which families owning a Deepfreeze unit would naturally consume.

One other scheduled speaker, a state conservation officer who was to talk on the storage of game birds and animals, failed to appear, so the business session of the meeting closed with an informal discussion of this problem by the plant operators themselves.

A banquet in the hotel's Crystal Room topped off the day.

York Distributor Evolves 'Booster Fee' Plan For Securing Locker Renters In Advance

CROWN POINT, Ind.—Use of a one dollar "booster fee" on the yearly rental of individual refrigerated storage lockers, paid to churches, women's clubs, ladies aid societies, and other organizations, is the foundation of the fast growing locker business of Elits Refrigeration Co., York distributor here.

R. H. Elits, owner of the business, believes that a locker storage plant should be at least 80% rented at the time it is sold, in order to assure successful operation. Following this line of thinking, Mr. Elits has developed a plan to rent most of the lockers in any plant, before it is sold.

Approaching the local butcher, or grocer in a small town, Mr. Elits outlines a complete set up for a locker storage plant. He also offers to help rent most of the lockers before the plant is placed in operation.

Because selling several hundred individual lockers to people in the community would be a long and perhaps difficult "one man" job, Mr. Elits enlists the help of one or more local organizations interested in raising money. For example, if the local women's club wants to increase their

Variety of Subjects To Be Covered By Speakers At National Locker Meeting

(Concluded from Page 1, Column 4) & Mechanical Arts will discuss the grading of meat animals. Mr. Fenn, who believes that a more thorough knowledge of this subject on the part of locker operators would result in more satisfied customers, will illustrate his lecture with actual carcasses.

Feature of the Tuesday morning session will be a talk by T. C. Main, general manager of Ducks Unlimited, a Canadian organization devoted to improving duck breeding grounds in order to increase production. He will present a moving picture showing what has been done in Canada to give U. S. hunters more ducks to shoot.

Luncheon speaker on Tuesday will be Cullen Wright, prominent Nebraska cattle raiser, banker, and financier who is sometimes called "The Sage of the Sandhills." Mr. Wright's talk will be titled "The Red Flannel Philosopher."

He is said to combine sound business philosophy with homely prairie humor.

One of the broader phases of the locker storage picture will be treated by Marvin Schaars of the University of Wisconsin's department of agriculture in his exposition of the industry's economic aspects.

Even a top-notch locker plant can't possibly succeed unless the management can sell the locker storage idea to the public. Edward W. Jeffress, expert on the merchandising of dairy

products, will offer his advice on how to sell the locker service.

Only representative of the U. S. Government on the program of the locker convention will be K. F. Warner, senior extension meat specialist of the Department of Agriculture, will tell locker operators why a different approach to locker storage promotion must be used in each different community, and will give them some tips on what might work in their own home towns.

Highlight of the convention's entertainment program will be the stag party scheduled to be held at 8:30 Tuesday night.

Plant Under Way

BLOOMINGTON, Ind.—Bloomington Frosted Food Lockers Corp. is constructing a locker plant to accommodate 700 lockers, 300 of which will be installed as initial equipment.

W. Strain is architect for this plant, Joe Hamros is engineer, and Harry Kissleman is manager and operator.

FOR SATISFACTION—SPECIFY . . .

"VIRGINIA" REFRIGERANTS

VIRGINIA SMELTING COMPANY
Located at tidewater
WEST NORFOLK, VIRGINIA

From 1/4 to
25 TONS
of refrigeration

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration... Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

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FOR YEARS THE SYMBOL OF QUALITY

Only **POLARTRON**
Offers Truly Independent Adjustment

This exclusive

MINNEAPOLIS-HONEYWELL
feature enables you to change
either the ON or OFF pressure
without effecting the other

MINNEAPOLIS-HONEYWELL

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
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CANADIAN PLANT, TORONTO, EUROPEAN PLANT, LONDON, COMPANY OWNED BRANCHES IN 49 OTHER CITIES

REFRIGERATION
Control



Chicago ASRE Hears About 'Deepfreeze'

CHICAGO—A discussion of the new Deepfreeze frosted food storage development featured the first fall meeting of the Chicago section of American Society of Refrigerating Engineers Oct. 10 in the Drake hotel.

Speakers were George Hobson, John Moore, and L. B. Newell of the Motor Products Corp. Chicago office, and C. L. Olin of Servel, Inc.

Appointed to a nominating committee to select officers of the section for 1941 were: S. C. Bloom, chairman; D. E. Perham, T. C. McKee, and H. E. Halterman.

Field For 'Freon-12' Water Chilling Units Now Broadened By Increasing Number Of Air Conditioning Applications

Editor's Note: This is the first instalment of an article on "Freon-12" water chilling equipment by Mr. Armstrong, whose company specializes in such equipment. This instalment points out the market for such equipment, while future instalments will cover some of the technical aspects of such apparatus.

By R. M. Armstrong, Refrigeration Division, Richmond Engineering Co.

There is now a ready and consistent market for "Freon-12" water cooling equipment. This field was somewhat neglected prior to the development of reasonably priced dependable equipment, but now offers opportunity for "created business." Most of us will agree that "created business" is about the most profitable type.

In exploiting such a market the first step should be to plan a definite program of sales coverage. This raises the question as to where the business originates. Where were the big tonnage jobs sold? What type of water cooling installation occurs most often?

In order to answer this question the writer has analyzed the sales of one manufacturer of almost all types of water coolers, ranging in size from 1/2 to 175 tons per unit. While this manufacturer has predominantly built larger coolers, the wide coverage of the field makes this sales analysis at least indicative of the general trend.

The field includes primarily three types of water cooling jobs:

1. Air conditioning systems
2. Ice water systems
3. Miscellaneous, such as bottlers, bakers, X-ray, etc.

AIR CONDITIONING USES 92.5% OF THE TOTAL TONNAGE

The sales analysis shows the following distribution, first by total

number of jobs done, and second by their tonnage:

Type of Job	% of All Jobs	% of Total Tons
Air Conditioning	34.4	92.5
Drinking Water	58.5	6.6
Miscellaneous	7.1	0.9

ANALYSIS OF DRINKING WATER JOBS

Breaking down the individual sales of drinking water jobs it is found that public institutions use by far the most of these. This classification includes governmental hospitals, prisons, schools, where the inmates are fed in large mess halls. This class includes 64% of the jobs done, 36.5% of the total tons. The average tonnage per job was 1.65.

The second classification includes office buildings—24% of the jobs, 51% of the total tonnage with an average of 6.1 tons per job. Restaurants and hotels came last with 8% of the jobs and 7.4% of the tonnage, the average tonnage of each job being 2.67.

This average must be viewed in the light that it is largely based on coverage of jobs 1 ton and up in capacity. The small field is not included in this survey and would doubtless change the picture.

INDUSTRIAL PLANTS LARGEST USER OF CHILLED WATER FOR AIR COOLING

The actual analysis of chilled water

Table 1—Analysis of Chilled Water Cooling Jobs

Type of Application	Average Tons	% of Total No. of Jobs	% of Total No. of Tons
Industrial Plants	71.7	19.2	23.9
Airports, Terminals, Etc.	108.0	9.6	17.9
Offices and Office Buildings	44.5	15.4	11.8
Department and Other Stores	51.0	11.5	10.2
Hotels	68.5	7.7	9.1
Hospitals	32.1	15.4	8.5
Laboratories	65.0	5.8	6.5
Public Buildings	32.8	11.5	6.5
Theaters	80.0	2.0	3.0
Munitions and Armament	85.0	1.9	2.8
Average of All Jobs	58.2		

systems sold for air conditioning, divided into the various classifications, indicates a marked lead, both in number of jobs sold and in total tonnage, for the industrial field. This is hardly surprising as the better control made possible by the chilled water system is at a premium in industry and in manufacturing processes. (See Table 1.)

Immediately apparent is the fact that chilled water jobs are most frequent in the larger tonnages. This is due to the broad fact that usually the larger loads are spread out and not concentrated. The low percentage shown by theaters illustrates this. The theater is a concentrated load and does not require the control refinements of chilled water as much as other loads.

Another factor that does not appear in the table is the usual presence of a consulting engineer on jobs which go to chilled water. Of the total tonnage represented by the above table, about 85% was definitely under engineers. The 15% remaining was almost exclusively industrial work done by engineering minded contractors on their own sales and design initiative. Obviously this latter type of work is the most profitable although the technical pitfalls are greater. (See Table 2.)

THE FUTURE MARKET FOR CHILLED WATER SYSTEMS

The averages of the past are necessarily somewhat upset by large blocks of tonnage on individual jobs. To keep perspective and try to keep each field in its true place, the writer has endeavored to forecast the future distribution of business as indicated by present trends.

The reader can draw his own conclusions from the writer's pre-

Table 2—Prediction of Future Market

Type of Application	Average Tons	% of Total No. of Jobs	% of Total No. of Tons
Offices and Office Buildings	40.0	21	17.3
Industrial Plants	50.0	18	17.7
Hospitals	75.0	16	23.5
Hotels	60.0	12	14.0
Airports, Terminals, Etc.	50.0	8	7.8
Munitions and Armament	50.0	7	6.9
Public Buildings	25.0	7	3.5
Department and Other Stores	50.0	6	5.9
Laboratories	20.0	4	1.6
Theaters	90.0	1	1.8
Average Tons	50.95		

dicted analysis of chilled water jobs. I do think that there will be general agreement with the prediction that the major market will come from offices, industrial plants, hospitals, and hotels. These generally run to good sized plants and offer the type load best suited to chilled water.

REASONS FOR USING CHILLED WATER IN AIR CONDITIONING

The primary reason for the growing use of chilled water systems definitely is "Ease of Control." The control of water quantity and temperature is considerably easier than the control of direct expansion refrigerant. This becomes more marked as the differences of levels and distances become greater.

Use of chilled water allows air washer control which is generally recognized to be the best method now available for close control of humidity. There are other reasons for the use of chilled water, most of which are really only ramifications of the more general factor of ease of control. A few examples follow:

MULTIPLE AIR COOLING UNITS

Where the cooling load is such as to require a number of separate zones or cooling units of widely varying capacity, chilled water is preferable. The fluctuations of control on the compressor in a direct expansion system of this type would likely lead to such troubles as stop over of liquid, oil pumping, and high power cost.

A good example of this application is the usual hotel. The load fluctuates widely and a number of appreciable but intermittent zones must be handled. The auditorium or ballroom may completely upset normal operation when it is turned on or off. Usually a number of private dining rooms must be separately handled and controlled.

To keep the refrigerating machinery on an even keel and still handle these fluctuations, a single evaporator is desirable. Chilled water fills this requirement.

The same might be said of the multi-storied hotel or department store application where many equal zones are involved. The complication of multiple direct expansion controls would be undesirable.

(To Be Continued)

Film Exchange Has Many Needs For Air Cooling

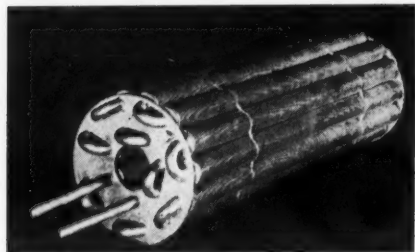
LOS ANGELES—Installation of a six-zone air conditioning system in the new two-story and basement Warner Bros. film exchange building has been completed by J. W. Sutphen & Co. here.

The system, utilizing zoning dampers so that any area may have either heating or cooling automatically at any time, is a 30-ton direct expansion Frigidaire job with heating coils above the cooling coils and the air split so that half goes into each. Dampers, modulating by means of thermostats, mix air for the zones.

While the film storage area is not air conditioned, the film inspection room is, and this part of the system is separated from the rest, because of ever present fire hazard, by fire dampers.

The projection room, too, where visiting exhibitors are sold Warner Bros. films, is air conditioned.

No Joints! No Leaks



This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

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Anaconda Copper Refrigeration Tubes

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FRENCH SMALL TUBE BRANCH
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ANSUL SULPHUR DIOXIDE
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AGENTS FOR KINETIC'S "FREON-12"

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Whether your requirements are large or small, standard or special, Servel engineers can help you solve your most vexing problems of commercial refrigeration or air conditioning. Write today to Servel, Inc., Electric Refrigeration and Air Conditioning Division, Evansville, Ind.



Superior Quick-Couplers

—are exactly what the name implies—handy little swivel couplers for "quick-coupling" charging lines, gauge lines, etc. to flare fittings—without the use of wrenches.

A soft composition gasket in the swivel connection does the trick. Run 'em up "finger-tight," and they're "gas-tight." Gasket easily and inexpensively replaced.

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UNIFORMITY

You get it in WOLVERINE TUBING

—Buy From Your Jobber—

WOLVERINE TUBE CO. DETROIT

Service Instructions on Counter-Type Freezers Refrigerated With Brine

Installation Hints and Brine Mixing Methods For the Russ Brine Refrigerated Model

By Arch Black and Dean C. Seitz

Editor's Note: This instalment in the series of articles on servicing of counter freezers and other types of low temperature equipment used by retailers is part of a section dealing with service instructions on specific types of counter freezers.

Russ Combination Ice Cream Counter Freezer

As an example of the type of combination freezer refrigerated completely with brine, that manufactured by Russ Mfg. Co. will be considered. Fig. 9 is a phantom view of the operator's side of a self-contained unit and is so marked as to make it self-explanatory.

Fig. 10 is a phantom view from opposite the dispenser's side and shows the brine pump, the path of brine from tank to freezer, and return. By studying these two views and considering the explanation given in the Oct. 16 issue on Type I it is believed the reader will have no difficulty in having a full understanding of this system.

Following will be installation instructions, mixing brine, operating the freezer, service instructions, etc., as they apply in the Russ Model 200. Already in previous articles much information of this type has been given as it applies to ice cream counter freezers in general. The reader should take these into consideration as it is only intended in the following to consider the points which may be characteristic of the subject type freezer.

Mixing Brines

The mixing of brines was fully discussed in articles appearing prior to the publication of SF-1. These, however, explain the mixing of brines as it applied to soda fountains, and as greater care must be taken in the mixing of brine for ice cream counter freezers than soda fountains it is advisable to elaborate on that already written.

The cabinet of the Russ freezer is so constructed that either an alcohol brine or a calcium chloride brine can be used. Though the alcohol brine is much easier to mix, the

efficiency of the machine is not as high as with calcium, nor will it turn out a batch of cream in as short a time. As a matter of fact, there may be as much as three minutes per batch difference.

If alcohol brine is used, use a 60% alcohol and 40% water mixture or 21 gallons of alcohol and 14 gallons of water. The total brine capacity of the cabinet is approximately 35 gallons. Great care should be taken in mixing calcium chloride brine, for to some extent the success of the job depends on the correctness.

If at all possible, mix the brine a day ahead and take great care in straining the brine before putting into the cabinet. If the brine is warmer than room temperature it is very likely that when the brine is cooling it precipitates and calcium will be found which will cause trouble.

If it is necessary to rush the cooling of brine so as to put it in the cabinet on the same day, substitute ice for several gallons of water, using 8½ pounds of ice for each gallon of water omitted.

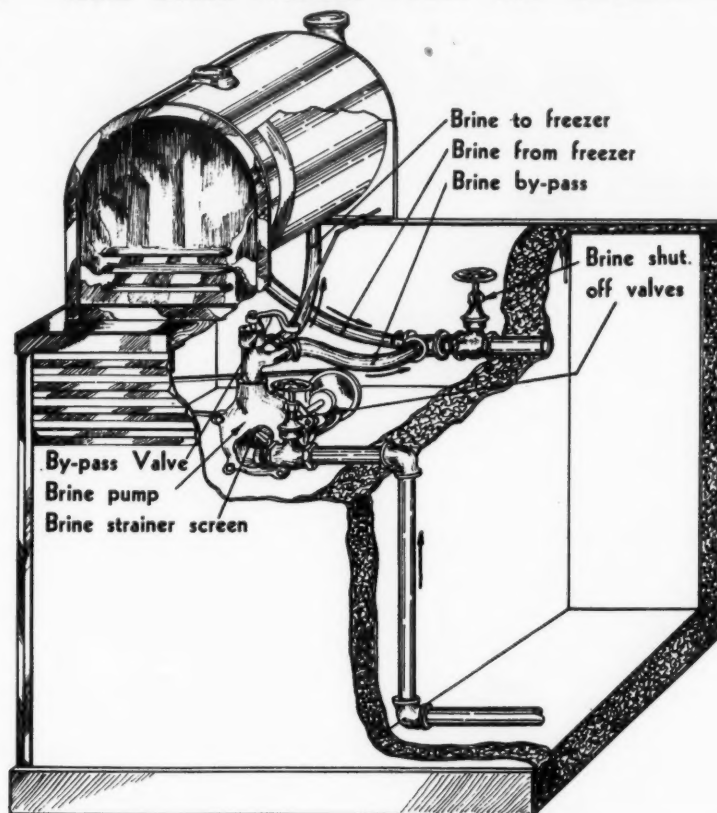
For example, if a total of 30 gallons of water is required, take 20 gallons of water and add 85 lbs. of ice. Be sure to measure the amount of brine when the brine is fairly well cooled to approximately 60° F. Specific gravity of the brine at 60° F. should not be less than 1.27 and not more than 1.29 or a salometer reading at 60° F. of 1.32.

If the calcium needs neutralizing, it is recommended that a triethanolamine be used adding approximately 3 pints to the solution. If triethanolamine cannot be obtained use either sodium chromate or sodium dichromate. Triethanolamine is obtainable from any large chemical house.

Be careful not to mix too strong a solution of calcium chloride as it will be found that after a certain point has been reached the more calcium is added, the higher the freezing point. It is very essential in this freezer not to allow the brine to freeze because of too much chloride.

When calcium chloride brine freezes because of being too strong a solution, it precipitates chloride salt which forms at the bottom of the tank. This is impossible to remove other than by circulating fresh water through the tank which will be a long and tedious job.

Fig. 9—Russ Brine Model From the Counter Side



Use a maximum of 4 lbs. of calcium chloride 77-80% flake (good grade) to every gallon of brine, or in other words 4% lbs. to every gallon of water. Take 140 lbs. of calcium chloride, add water until 35 gallons is obtained; or take approximately 28 gallons of water with 142 lbs. of calcium which should give you the correct mixture.

If the service engineer only has available 5 or 10 gallon cans for mixing brines, mix 41 lbs. of calcium chloride with 8 gallons of water to make 10 gallons of brine. If 5 gallon cans, mix 20½ lbs. of calcium chloride with 4 gallons of water to make 5 gallons of brine.

Every service organization should have either a salometer, hydrometer, or better still, a direct reading instrument for measuring the freezing point of the brine at any temperature.

FILLING THE CABINET WITH BRINE

Remove the thermometer (see Fig. 10) by taking out the two screws holding the thermometer in place. Cover the cabinet with heavy wrapping paper so as to catch whatever brine may spill. If brine should reach the cabinet surface, be sure to wipe off with wet cloth. Fill the cabinet within ½ inch of the top of the tank. Check the brine level after the temperature has been reduced to around 10° below zero and after the brine has been circulated through the freezer.

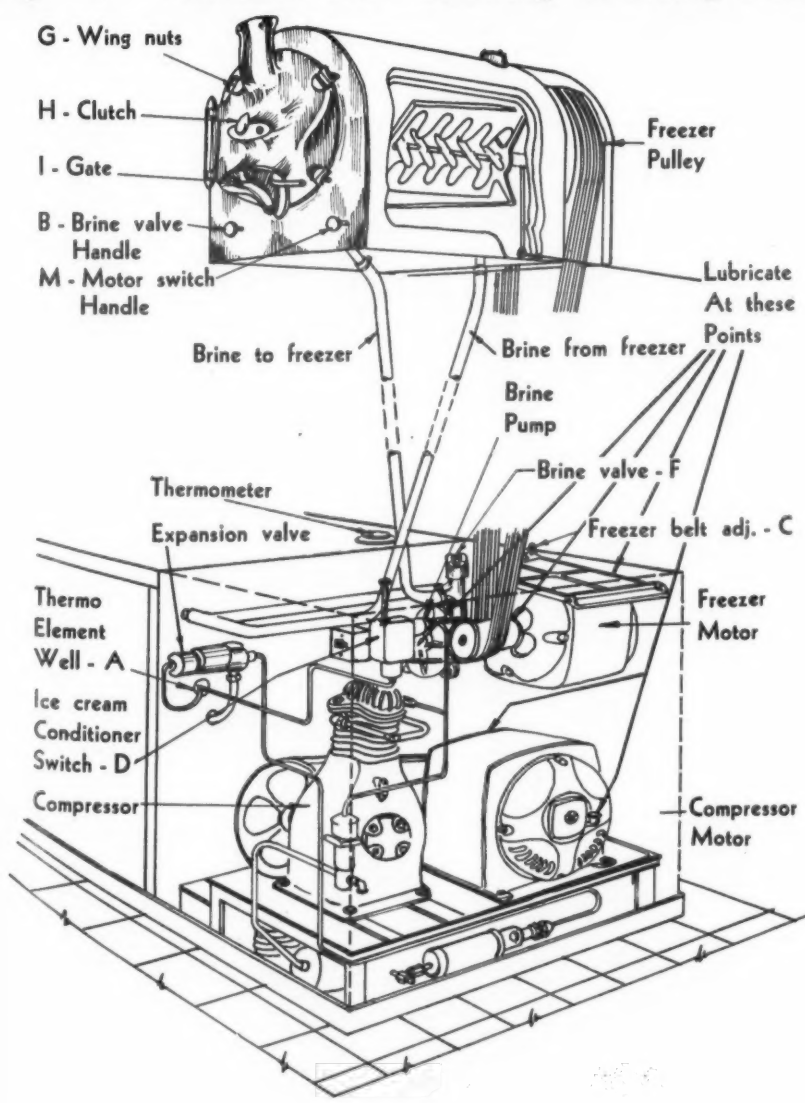
If the brine level is too low, the brine pump will not prime, making it hard to get the brine circulating. Do not try to prime the brine pump as it is not necessary. As the tank is completely sealed it will be necessary to place a short length of quarter-inch tubing inside the funnel to allow the air to come out while filling the cabinet. Cover the funnel with three layers of cheesecloth if the brine has not previously been strained.

THERMOMETER

Temperature on the thermometer indicates temperature of the brine. There may be a variation of several degrees between the temperature recorded on the thermometer and that in the bottom of the tank when the brine pump is not operating.

Never mix an extra strong solution of brine and expect to dilute in the cabinet.

Fig. 10—Phantom View Showing Working Parts



Dayton V-BELTS

Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.

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World's Largest Manufacturer of V-Belts

SHELL and FIN TUBE CONDENSERS

Combination of Water Cooled Condenser and Liquid Receiver

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is Outstanding

for high-grade refrigerated display cabinet construction. Here are some reasons why—

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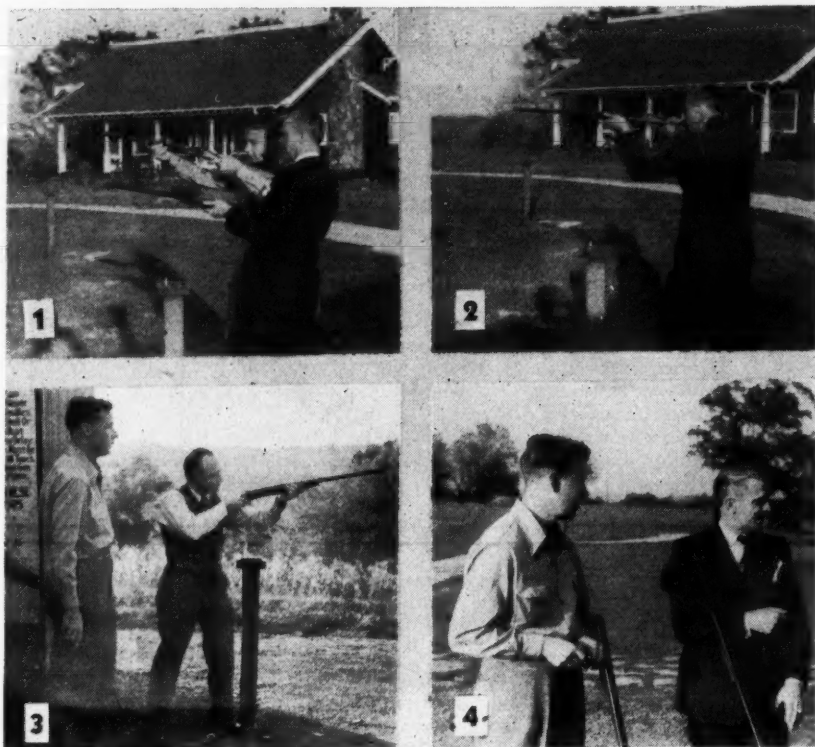
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BUNDY TUBING
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SPORLAN VALVES

Preparedness Note At a Convention



Most convention pictures show golf-course scenes, so to be different, we show Rema members at the French Lick skeet club. (Besides, it's in keeping with the preparedness idea.) (1) Joe Krall of Detroit Lubricator shows Earl Vallee of Automatic Products Co. what he considers to be good

form (even if it is left handed). (2) Mr. Vallee takes aim. (3) Krall looks on as John Wyllie, Jr. of Temp-rite is about to say "pull." (4) Krall and Vallee again, with the pressure off.

IF I WERE A JOBBER

Packages Themselves Can Make Up Interesting Displays If Given Some Study

By Zeke Carrithers

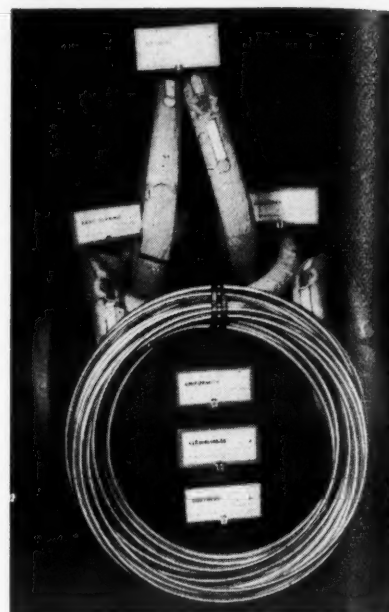
In previous articles the subject of unit displays in the window, in the showcase, on the counter, and on the shelves has been discussed.

As an example showing the possibilities of these unit displays, here are three pictures supplied to me by Joe Oberc of J. M. Oberc, Inc., Detroit refrigeration supplies jobber, illustrating the idea of how simple and effective units can be arranged.

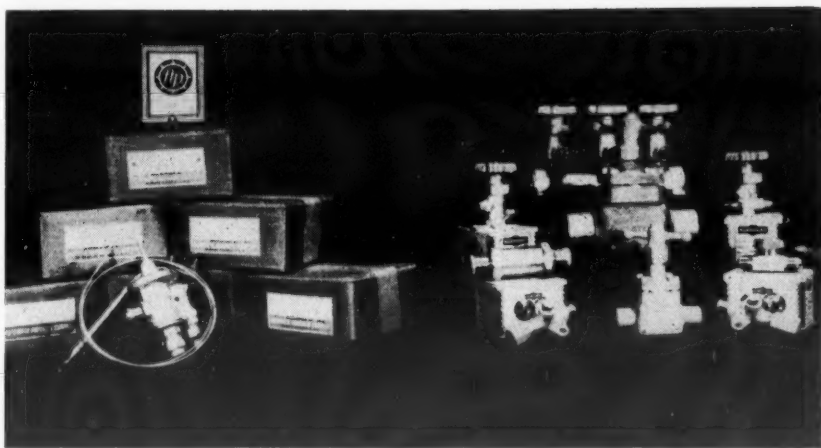
One of the problems, of course, is that a jobber does not find it advisable to break open original packages and thus disrupt his stock.

Consequently, it is often possible to make a display of the packages themselves, with perhaps one item showing, such as illustrated in the case of Peerless, also the Automatic Products unit and Wolverine Tubing. Note below, how the one item may be shown, and the rest of the display made out of the packaged items, neatness being a keynote.

Also note, at the right, how an interesting display can be made out of a plain item such as tubing.



Two Types of Shelf Display Arrangements That Can Help To Sell Refrigeration Supplies



GALE
CONDENSING UNITS
Precision built for efficient operation.
GALE PRODUCTS
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DISPLAY CASES
Write for details of this sensational new 100% PORCELAIN Display Case line.
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Use CHICAGO SEALS
for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
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Anaconda Copper Refrigeration Tubes
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THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

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BRAND NEW REASON FOR SELLING
Sherer's BIG PROFIT LINE!

ARISTOBAR pays its own way... increases profit margin, reduces cooling costs. Replaces messy wet bath with dry cold... colorful linoleum covering and stainless steel trim... other attractive features. Will pay YOUR way with profit on every sale... with increased compressor volume.

SHERER-GILLETT CO., MARSHALL MICHIGAN

SHERER
DISPLAY AND STORAGE EQUIPMENT FOR RETAIL FOOD STORES
SHERER-GILLETT CO., MARSHALL, MICHIGAN

Refrigerated Bar for Draft and Bottled Beer

THE DAIRY CASE THAT TOPS THEM ALL

"EYE LEVEL" DISPLAY BOOSTS SALES. PERFECT REFRIGERATION ENDS SPOILAGE.

ALSO AVAILABLE WITH NON-REFRIGERATED OPEN BOTTOM, WITH WIRE BASKETS.

IDEAL FOR DAIRY, PRODUCE, AND ALL OTHER PERISHABLES.

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INQUIRE TODAY!

MODEL 6000

FOGEL REFRIGERATOR COMPANY Since 1899
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WEBER presents the MASTER-VALUE LINE
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A few sales franchises are available. Write today for catalog and complete information on Weber's fast selling line of "merchant profit-earning" refrigerator cases. It means money in your pocket!

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Fan Blades and Blower Wheels
by **TORRINGTON**

THE TORRINGTON MANUFACTURING CO. of TORRINGTON, CONNECTICUT

Washington ASRE Sees Govt. Air Cooling Plants

WASHINGTON, D. C.—An inspection of the refrigeration and air conditioning plants of the U. S. Capitol and a discussion of the future trend of air conditioning featured the meeting of the Baltimore-Washington section of American Society of Refrigerating Engineers here Sept. 27. Forty members and guests made the inspection trip, and 57 persons attended the dinner and meeting.

"The Trend in Air Conditioning" was discussed by Paul Vincent, consulting engineer. Mr. Vincent covered the progress of air conditioning from about 1924 to the present, listing each major development chronologically and explaining its general effect on the industry. The present trend in air conditioning is toward unit equipment, he declared.

Dr. Sebastian Karrer, director of research for Baltimore Consolidated Gas, Electric Light & Power Co., took A.S.R.E. members "Along the Frontiers of Science."

Showing of the Westinghouse movie, "The Middleton Family at the World's Fair," closed the meeting.

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BRAND NEW air cooled High Sides at exceptionally low prices. These condensing units are complete, ready to be plugged in. They are made up with all new parts; General Electric or Frigidaire Compressor, General Electric or Delco Motor, heavy duty condenser, heavy base, receiver, valves, etc.; charged with Methyl or "Freon." They are available in 1/2-H.P. and 1 H.P. GENERAL REFRIGERATORS CORPORATION, 518 East 20th Street, New York, N. Y.

BRAND NEW Westinghouse 1 to 2 ton Low-Sides available, complete with Walnut, Mahogany or Modern cabinets, filter, coils, fans, valves, etc. Simple to install, satisfactory in operation. Sold to you in original Westinghouse crates—\$32.50 each. Also brand new 1/2 H.P. and 1 H.P. complete G-E units and full line "As Is" or Rebuilt Commercial units from 1/2 H.P. to 3 H.P. "As Is" 1/2 H.P. units complete with motors as low as \$5.00. Write ASSOCIATED REFRIGERATOR PLANT, INC., 3028 West Hunting Park Avenue, Philadelphia, Pa.

FOR SALE—1600 Refrigerator Compressors reconditioned. 800 Universal Single Cylinders—500 Universal Twins—350 Frigidaire Twins. These can be bought cheap, especially if you can use the entire lot. KAPLAN SALVAGE CO., 1615 S. Kostner Ave., Chicago, Ill.

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PATENTS

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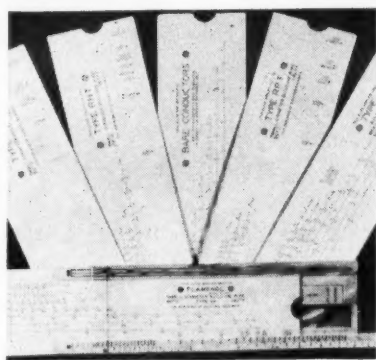
What's New

Descriptions of some of the brand new items for the refrigeration and air conditioning, and major appliance fields

G-E 'Wirometer' Useful In Figuring Capacities

BRIDGEPORT, Conn.—A pocket-size wire calculator, called the "Wirometer," for use in computing wiring problems in accordance with the 1940 National Electrical Code, has been developed by the General Electric appliance and merchandise department. The Wirometer provides a quick method for arriving at code requirements.

Information which may be obtained by the use of the device includes: conduit fill of all approved types of building wires, including wires of different sizes in one conduit; current capacities for wires when more than



'Wirometer' Wiring Calculator

three wires are run in one conduit; corrections in current-carrying capacity for ambient temperatures over 30° C.; and voltage drop for eight distribution systems.

The Wirometer is 8 inches long, by 2 1/2 inches wide, and is made up of two sliding celluloid covers and six interchangeable cardboard slides. One side of the Wirometer enables voltage drop to be calculated for eight of the most widely used distribution systems. Wire sizes which can be used in the calculation range from No. 16 to No. 4/0 AWG with distances from 10 to 1,000 feet. The other side of the Wirometer is designed for determination of the number of wires allowed in conduit, the resultant current values, and also correction for ambient temperature.

'Special' Water Heater Marketed By Hotpoint

CHICAGO — A new "Hotpoint Special" electric water heater in the best-selling 30-gal. size has just been announced by Edison General Electric Appliance Co.

The "Hotpoint Special" is available in one model only, having a single heating unit and galvanized tank. Heating is accomplished by a quick-heating immersion unit. A unit size from 100 to 3,000 watts may be selected, with sufficient wattage to heat the entire tankful of water within prescribed charging hours.

A scientifically designed baffle distributes cold water entering at the bottom side of the tank, reducing mixing of incoming cold water with stored hot water. Rock wool insulation is used.

'Quicklag' Circuit Breaker Uses New Principle

EAST PITTSBURGH, Pa.—The "Quicklag," a new small circuit breaker designed primarily for the protection of lighting, appliance, and motor circuits in homes, buildings, stores, and factories, has been announced by Westinghouse Electric & Mfg. Co.

Claimed to introduce a new principle to circuit protection, the "Quicklag" is said to combine for the first time in a single unit a cooperative magnetic and a thermal trip. Combination of the bi-metal thermal and the magnetic trip actions provides instantaneous trip on short circuits combined with time-delay for momentary overloads such as those caused by lamp, appliance, or motor inrush currents.

'Beverette' Is Jewett's Smallest Beer Displayer

The new unit is available in ratings of 15 to 35 amperes, single pole only, 250 volts a.c. and 125 volts d.c.

BUFFALO—As a companion of its Beerador and Bevalor beverage cooling refrigerators, Jewett Refrigerator Co. has developed a smaller unit, the Beverette, somewhat similar in size to a household refrigerator, and designed for the food or beverage retailer whose needs do not warrant use of either of the two larger coolers.

Where the Beerador has a capacity of 22 cases of beverages, and the Bevalor of 11 cases, the Beverette has a capacity of 144 bottles of beer, milk, or other beverages of "steinie" size on three shelves, leaving a fourth shelf free for general storage. Each shelf holds 48 12-ounce steinie bottles, 24 quart milk or beer bottles, or 38 pint milk bottles.

Shelves are adjustable in height, so that pint bottles may be stored on one shelf, and quart bottles on another. This arrangement leaves two shelves free for general storage.

The Beverette is 61 inches high, and has a diameter of 30 inches, being circular in shape except for the door. Exterior finish is Dulux; interior is aluminum luster on galvanized iron. "Look-in" door has three thicknesses of plate glass, set in water-proof cement with Silica Gel dryers.

A cold storage compartment, located above the beverage storage section, maintains a temperature of 10° F. and can be used either for ice cube freezing or for storage of frosted foods. Capacity of the compartment is 25 to 30 packages of frosted foods; ice capacity is 24 pounds in six trays.

'Humidome' 1941 Prices Start At \$39.50

CHICAGO — The 1941 line of "Humidome" portable humidifiers has been announced by Harry Alter Co. Feature model of the line, No. 341, lists at \$39.50. Other models in the line are No. 241, listing at \$44.50, and No. 141, listing at \$52.50.

The feature model of the line, No. 341, has a water evaporation rate of three pints per hour, with a reservoir water capacity of five gallons. It has an air volume of 140 c.f.m.

Model 241 is similar to the feature model, but is equipped with a more powerful motor. Water evaporation rate of this model is said to be "over four pints per hour," and has a reservoir water capacity of five gallons. It has an air volume of 175 c.f.m.

The deluxe model, No. 141, also has a water evaporation rate of "over four pints per hour," with a reservoir water capacity of five gallons. Air volume is 175 c.f.m. This model is equipped with adjustable air control shutters. It has a two-piece cabinet of heavy steel, finished in dark mahogany "Hammeroid." Other models are finished in baked dark mahogany wrinkle.

Dimensions of all three models are the same, being 16 1/4 inches high, 15 inches wide, and 13 1/2 inches deep. Portable stands in two models are available.

End-Table Humidifier Added To F-M Line

CHICAGO — A new low cost humidifier to sell for \$59.50 has been added to the air conditioning line of Fairbanks, Morse & Co. The unit, which also may be used as an end table, is available in a wood cabinet at \$69.50.

The humidifier handles 150 c.f.m., and is said to remove smoke, dirt, and pollen from the air while moisture is being added.

Flashlight Battery Is Rechargeable

SYCAMORE, Ill.—A rechargeable flashlight battery similar in principle to the automobile storage battery has been announced by Ideal Commutator Dresser Co. here.

Small in size, this battery is made to fit all popular two-cell 1 1/4-inch size D flashlight cases. In heavy use, one discharge is said to be equal to a pair of ordinary dry cells. It is claimed that this battery will outlast hundreds of the ordinary type, giving up to 1,000 hours of bright light with proper care.

A small charger consisting of transformer and rectifier plates is used to keep the battery at full strength. This charger merely needs to be plugged into any 110-volt, 60-cycle wall socket. Recommended charging time is 12 hours.

Dealers Wanted for Midwestern and Southern States
CAMPBELL REFRIGERATOR CO.
Milwaukee, Wis.

Hardy-MAYFLOWER
commercial compressors
are Efficient, Sturdy and Reliable
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SOLD ONLY THROUGH DEALERS
Give Extra Profits—
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BALANCED-ACTION DIAPHRAGM PACKLESS VALVES
LONG AND "Carefree" LIFE
That's what Henry's new design gives to packless valve diaphragms. Henry diaphragms are puncture and fracture-proof. They also have a light gentle spring to push them up and a non-rotating bearing plate to push them down. Wear and strain are reduced.
RECOMMENDED AND SOLD BY LEADING JOBBERS
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Replacement High Side Floats for HERMETIC Units
Aminco No. 369 is recommended for replacement, on hermetic units. A complete replacement—it should not be disassembled. An Amincol seat prevents corrosion and eliminates float trouble due to acid in the system.
Nos. 367-368 are suitable for replacement in a number of well-known refrigerators. May be used with SO₂, CH₂Cl and "F-12." Send for bulletin No. 39.
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WALL HUMI-TEMP UNITS
Sell new customers and build new business on the sound basis of customer satisfaction—sell the Larkin Wall-Humi-Temp—the industry's leading forced convection unit. Share the added profits enjoyed by Larkin dealers everywhere.
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"Chieftain" makes no complete refrigerating equipment. Our business is large production of compressors and highsides. We do not compete with our customers.
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You can SPEED UP your flaring!
The new Imperial Flaring Tool with slip-on yoke, provides ease and speed of operation never before attained in a flaring tool.
The yoke is made so that it can be slipped on over the bar without twisting or turning. The inside edges of the yoke are slotted so that once in position a slight turn holds it in place on the bar. Yokes No. 185-F Imperial Flaring Tool, flares 1/4", 3/8", 1/2", 5/8" and 3/4" O. D. tubing. Price each... \$4.25
Also available for all other sizes of tubing.
THE IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago, Ill.
IMPERIAL
VALVES • FITTINGS • TOOLS
CHARGING LINES • FLOATS
STRAINERS • DEHYDRATORS
ORDER FROM YOUR JOBBERS

Stewart-Warner To Open Drive Early

(Concluded from Page 1, Column 5)
line at the morning session, the afternoon was given over to a conducted tour of "Quality Lane," the production course through the factory that all S-W refrigerators must follow. Point of the tour was to translate the word "quality" from an intangible term into a visual review of the precision operations and exacting tests involved in manufacturing the refrigerators — all grouped under "quality" as defined by the company.

Separate from other convention activities was the opening of a "service school" at the Indianapolis factory, where distributor and dealer service men were instructed in the latest methods of refrigerator repair and maintenance.

Transported to French Lick Springs after the day's program at Indianapolis, convention delegates were welcomed at dinner that evening by James S. Knowlson, Stewart-Warner president and board chairman. Second day's program began with a talk by Joseph C. Elliff, assistant general sales manager, who outlined the 1941 Dual-Temp national advertising and sales promotion plan, and interpreted its scope in terms of the consumer, the dealer, and the distributor.

A. B. Dicus of Hays MacFarland & Co., Stewart-Warner advertising agency, then gave a detailed resume of the 1941 national advertising program. Illustrating his talk with huge color reproductions of the major consumer magazines, Mr. Dicus talked with imaginary women readers of these magazines, the recorded voices being spaced to synchronize with his remarks, and creating the illusion of an actual conversation.

C. C. DeWees, Stewart-Warner advertising manager, outlined elements of 1941 merchandising as tied in with the national advertising plan. Chief highlight of this merchandising campaign will be the year-around refrigerator sales program. Stewart-Warner is the first major manufacturer of electric refrigerators to sponsor such a program, Mr. DeWees claimed.

The merchandising plan also will include a finance plan with a number of features, including a winter purchase plan, designed to build holiday volume. Another part of the 1941 sales plans is a full-color movie, "Betty Puts Her Budget on Ice," which was previewed by the convention at its second afternoon session.

Speakers Dicus and DeWees later discussed the trade paper advertising schedule for Dual-Temp models during the coming year, and Richard Brinsley of C.I.T. and Irv Veeck of Stewart-Warner outlined refrigerator financing and methods to be used in signing new dealers.

Another point of interest was a review of the company's 1941 home economist promotional plan, outlined by Gus Treffeisen, and to be directed by Frances Weedman, home economist. This program will be extended to the farm market, and will provide direct tie-ins with the merchandising efforts of frosted foods manufacturers and owners of locker storage plants in rural areas. Featured in the program will be the seal of approval awarded the Dual-Temp by Good Housekeeping Institute, Armour Research Foundation, and the Birds Eye Frosted Foods organization.

Model	Net Storage Cap.	Shelf Area Sq. Ft.	Ice Capacity Cubes Lbs.
Dual-Temp Series			
871	8.0	16.5	84 12
861	8.0	16.5	84 12
671	6.3	11.5	56 8
661	6.3	11.5	56 8
Standard Series			
801	8.0	16.0	56 8
611	6.5	11.2	56 8
601	6.5	11.2	56 8
401	4.2	9.0	28 4

Note: Models 871 and 671 in the Dual-Temp series and models 801 and 611 in the Standard series have dry storage compartments in the cabinet base. Standard series models have conventional type evaporators. Dual-Temp models have a "Freezing Locker" below normal storage section. Dual-Temp models also have Sterilamp, adjustable shelves. Models 871, 671, 801, and 611 have covered vegetable fresheners, first three of sliding type with glass cover. All models have automatic interior light.

These Men Made Rema's Fall Meeting the Best In Its History

These men shown in this group picture were among those present at "the best-attended meeting" of the Refrigeration Equipment Manufacturers Association, held earlier this month at French Lick, Ind. Among those present who failed to get in the picture are J. W. Baillie, Detroit Lubricator Co.; H. L. Beekley, The Electromatic Corp.; W. T. Carmody, Spoehrer-Lange Co.; E. W. McGovern, E. I. du Pont de Nemours & Co., Inc.; Paul Penn, Penn Electric Switch Co.

Top Row—M. W. Knight, Peerless of America, Inc.; Ivan Corcoran, Square D Co.; Otto C. Wilk, The Weatherhead Co.; L. F. Blough, White-Rodgers Electric Co.; M. E. Miller, Peerless of America, Inc.; E. J. Zoll, Chicago-Wilcox Mfg. Co.; J. M. Dumser, Chass Brass; Fred Riggan, Jr., Mueller Brass Co.

Next to Top Row—H. T. McDermott, Refrigeration Service Engineers Society; G. E. Graft and A. J. Meyer, Ranco, Inc.; A. B. Newton, Minneapolis-Honeywell Regulator Co.; G. Russell Whippo, The Weatherhead Co.; E. C. Eickhoff, Chase Brass & Copper Co.; Gordon A. Burns, Kelvinator, Canada; David Fiske, A.S.R.E.

Third from Top—John Wyllie, Jr., Temprite Products Corp.; F. K. Smith, Tecumseh Products Co.; J. A. Strachan, Kerotest Mfg. Co.; L. C. McKesson, Ansul Chemical Co.; Clark Bridgman, The Bush Mfg. Co.; Barrett Scudder, Jas. P. Marsh Corp.; C. H. Benson and Wm. A. Leonard, Imperial Brass Mfg. Co.; Frank J. Gleason, Copeland Refrigeration Corp.; H. W. Jarrow, Jarrow Products.

Fourth from Top—M. R. Oberholzer, L. H. Gilmer Co.; M. H. Pendergast, Modern Equipment Corp.; J. Norbert Ott and C. V. Gary, Henry Valve Co.; F. J. Hood, Ansul Chemical Co.; S. R. Robinson, Bonney Forge & Tool Works; F. A. M. Dawson, Refrigeration Supplies Co., Ltd., Toronto, Canada; C. C. Ryan, Dole Refrigeration Co.; K. B. Thorndike, Detroit Lubricator Co.

Fifth from Top—Phil Redeker, AIR CONDITIONING & REFRIGERATION NEWS; J. W. Krall, Detroit Lubricator Co.; F. E. Jernberg, Mills Novelty Co.; A. B. Schellenberg, Alco Valve Co.; W. C. Allen, Modern Equipment Corp.; R. M. Van Vleet, Cutler Hammer, Inc.; Robert LeBaron, Virginia Smelting Co.; Frank R. Pond, Refrigeration & Industrial Supply Co., Inc.

Bottom Row—R. M. McClure, executive secretary of Rema; W. D. Keefe, Fedders Mfg. Co.; Attorney Hammond E. Chaffetz, Kirkland, Fleming, Martin, Green & Ellis, Chicago; Stuart G. Phillips, The Dole Valve Co.; Phillip P. Gott, manager, Trade Association Department, U. S. Chamber of Commerce; N. J. MacDonald, Thomas & Betts Co.; E. A. Vallee, Automatic Products Co.; J. S. Forbes, Superior Valve & Fittings Co.; George Taubeneck, AIR CONDITIONING & REFRIGERATION NEWS.



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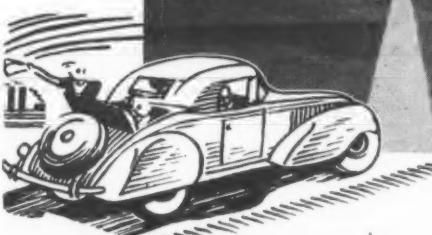
18  VALVES SERVE

CLARK'S YORKTOWN DINING ROOM

Famous Cleveland Tourist-Stop



Clark's Yorktown Dining Room, West 117th Street and Clifton Boulevard, Cleveland Ohio

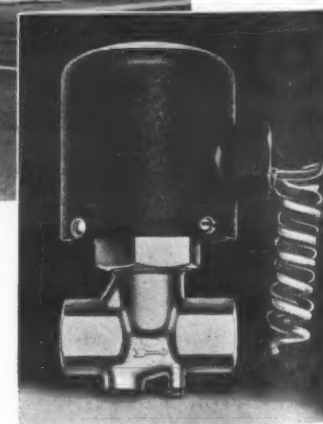



Clark's Yorktown Dining Room is one of 20 famous Clark Restaurants known in Cleveland and vicinity for their delicious food and charming surroundings. Many of them use A-P Valves. In the Yorktown Dining Room alone, 18 A-P Expansion Valves and Solenoids dependably protect food delicacies and beverages.

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New  Model No. 73RJ Refrigerant Solenoid Valve..

For Small Units. Maximum Operating Differential 125 to 180 lbs. per sq. inch. Exclusive A-P quieting feature prevents hum and excessive operating noises. Has handy mounting bracket. Easily cleaned on line.



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